Illinois Environmental Protection Agency
Bureau of Air
Permit Section

Responsiveness Summary for the Revised Clean Air Act Permit Program (CAAPP) Permit Issued to:

Midwest Generation, LLC for the
Powerton Generating Station
Pekin, Illinois

August 8, 2017

Source I.D. No.: 179801AAA
Permit No.: 95090074

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A. DECISION

On August 8, 2017, the Illinois EPA issued a revised Clean Air Act Permit Program (CAAPP) permit to Midwest Generation, LLC for the Powerton Generating Station (Powerton Station or Powerton).

B. BACKGROUND

The Powerton Generating Station is a coal-fired electric power plant owned and operated by Midwest Generation, LLC. The plant has four coal-fired boilers for electric generation. The boilers supply steam to two electrical generators, with two boilers serving each generator. The Powerton Generating Station qualifies as a major source of emissions under Illinois' Clean Air Act Permit Program (CAAPP).

The CAAPP is Illinois' operating permit program for sources of emissions pursuant to Title V of the federal Clean Air Act. The CAAPP is administered by the Illinois EPA. The CAAPP generally requires that major stationary sources of emissions in Illinois apply for and obtain CAAPP permits. CAAPP permits contain conditions identifying applicable air pollution control requirements under the federal Clean Air Act (CAA) and Illinois' Environmental Protection Act (Act). Compliance procedures, including testing, monitoring, recordkeeping and reporting requirements, are also established as required or necessary to assure compliance and accomplish the purposes of the CAAPP. The conditions of a CAAPP permit are enforceable by the Illinois EPA, USEPA and the public.

The Illinois EPA issued the initial CAAPP permit for the Powerton Station on September 29, 2005. Midwest Generation, LLC appealed this permit to the Illinois Pollution Control Board (Board), challenging a number of conditions in the permit. On November 17, 2005, the Board accepted the appeal and on February 16, 2006 the Board confirmed that the initial permit was stayed in its entirety by operation of law.[1] On March 9, 2015, the source and the Illinois EPA, with the assistance of the Office of the Illinois Attorney General, concluded a lengthy settlement process that resulted in the initial effectiveness of the CAAPP permit and a resolution of the appeal through negotiated permit revisions.[2]

The Illinois EPA then initiated a reopening proceeding under the CAAPP to bring this CAAPP permit up-to-date. The revised CAAPP permit that has now been issued for Powerton is the result of this reopening proceeding and is the final step in getting an up-to-date CAAPP permit in place for this source. Provisions have now been added in this permit to address emission control requirements that were adopted by the USEPA and Illinois since the initial CAAPP permit was issued.[3] While Powerton has been required to comply with these requirements as they took effect, the CAAPP permit has now been revised to include provisions addressing these requirements.

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[1] The Powerton Station is one of many coal-fired power plants in Illinois whose initial CAAPP permits were subsequently appealed to the Board and stayed in their entirety.
[2] This settlement occurred in conjunction with the simultaneous release by the Illinois EPA of a draft of planned revisions to the CAAPP permit for the Powerton Station. Following completion of the public comment period on the draft of a revised permit, a revised CAAPP permit was subsequently issued on October 15, 2015.
[3] The principal "new" requirements that were added into the CAAPP permit for the Powerton Station are applicable requirements of recently adopted USEPA rules, such as the Cross-State Air Pollution Rule (CSAPR) and the Mercury and Air Toxics Standards (MATS rule).

The revised permit that has now been issued also includes a number of other changes to bring the CAAPP permit for the Powerton Station up to date. It restates the limits set by construction permits issued for projects at Powerton since the initial CAAPP permit was issued. This revised permit also provides final approval of the Compliance Assurance Monitoring (CAM) Plan for the particulate matter (PM) emissions of the four coal-boilers at the plant.

C. OPPORTUNITY FOR PUBLIC COMMENTS

The issuance of this revised permit was preceded by a public comment period in accordance with Section 39.5(8) of the Act and 35 IAC Part 252. A draft of the revised permit and the accompanying Statement of Basis prepared by the Illinois EPA were made available for review by the public at the Pekin Public Library in Pekin and Illinois EPA Headquarters in Springfield.[4] The comment period began on August 25, 2016. A public hearing was held on November 15, 2016 and the comment period and ended on December 15, 2016.

The planned issuance of a revised CAAPP permit for the Powerton Station generated a number of comments from several members of the general public, a group of environmental advocacy organizations and USEPA. The comments were helpful to the Illinois EPA in the decision-making process and these comments were fully considered by the Illinois EPA prior to issuing the revised permit.

In this Responsiveness Summary, the comments concerning specific conditions of the permit are discussed first in Section E of this document. For simplicity and clarity, these comments have been arranged in the same order as the conditions are arranged in the CAAPP permit. Comments from the source that identify errors in wording and cross-references in specific conditions of the draft permit are also included in Section E. General comments about this planned permit action that are not related to specific conditions of the permit are addressed in a separate section of the document.

D. AVAILABILITY OF DOCUMENTS

Copies of this Responsiveness Summary and the revised CAAPP permit that has been issued are being made available for viewing by the public at the Illinois EPA's Headquarters at 1021 North Grand Avenue East in Springfield.

Copies are also available electronically at www.epa.illinois.gov/public-notices and www.epa.gov/region5/air/permits/ilonline.html.

Printed copies of these documents are also available free of charge by calling or contacting Rachel Stewart in the Office of Community Relations.

217-782-2224 Desk line
217-782-9143 TDD

rachel.stewart@illinois.gov

[4] Illinois EPA, *Statement of Basis for the Planned Issuance of a Revised CAAPP Permit Through Reopening and Significant Modification And a Revised Acid Rain Program Permit For: Midwest Generation, LLC Powerton Generating Station*, August 25, 2016 (Statement of Basis).

Questions about this permit proceeding should also be directed to Ms Stewart.

E. COMMENTS ON SPECIFIC PERMIT CONDITIONS WITH RESPONSES BY THE ILLINOIS EPA

I. Comment Regarding Section 2 of the Permit (List of Abbreviations/Acronyms Used in This Permit)

1. Permit Condition: 2.0
Related Conditions: 6.6.9(b)(ii)(C) and 6.6.9(c)(ii)(B) 6.5.7(a)

Comment:
The Draft Permit contains undefined terms and unexplained acronyms for which a definition must be provided in order to ensure the terms are clear and enforceable, as required by Title V. *See In re Cash Creek Generation, LLC*, 2012 EPA CAA Title V Lexis 5 ("One purpose of the title V program is to 'enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements'") (citing 57 Fed. Reg. 32250, 32251 (July 21, 1992)).

These include the term PM CPMS, used in Conditions 6.6.9(b)(ii)(C) and 6.6.9(c)(ii)(B), which likewise is not found in Condition 2.0, List of Abbreviations and Acronyms Used in This Permit, or otherwise defined If Illinois EPA means "Continuous Particulate Monitoring system," it should clearly define that.

Moreover, the Draft Permit uses the term "excepted" monitoring systems in Condition 6.5.7(a), and it is not clear what "excepted" monitoring systems means. If Illinois EPA means "accepted" monitoring systems, it should include that correction; otherwise, it should clearly explain what "excepted" monitoring systems means.

Response:
The term PM CPMS (Particulate Matter Continuous Parametric Monitoring System) has been added to the listing of terms in Condition 2.0.[5]

In the draft permit, the term "excepted monitoring system" is correct. This term is used by Illinois in state rules at 35 IAC Part 225, as well as by USEPA in the Cross-State Air Pollution Rule (CSAPR), as it references provisions of the federal Acid Rain Program. This term is used to refer to certain alternative approaches to monitoring emissions that are acceptable approaches under these rules. For example, for emissions of mercury under 35 IAC Part 225, sorbent trap monitoring is an acceptable method for

[5] **A Particulate Matter Continuous Parametric Monitoring System (PM CPMS) measures PM emissions as an indicator of compliance with applicable PM standard(s). A PM CPMS is not operated to meet the performance specifications for a PM CEMS. PM CPMS are typically used for emission units for which it may be not be feasible or practical to meet the performance specifications for a PM CEMS.**

monitoring mercury emissions.[6, 7] As the term "excepted monitoring system" is used in certain rules, the meaning of the term is governed by those rules. It would not be appropriate for the permit to include a separate explanation for this term in the CAAPP permit.

II. Comments Regarding Conditions in Section 5 of the Permit (Overall Source Conditions)

1. Permit Condition: 5.2.9

Comment:

Condition 5.2.9 should be revised so that any substantive changes to the Control Measures Record require review by Illinois EPA and public comment, as appropriate, prior to incorporation into the permit. Condition 5.2.9(a) incorporates into the draft permit the Permittee's Control Measures Record dated April 28, 2016, and states:

> Any revised version of the Control Measures Record prepared by the Permittee and submitted to IEPA while this permit term is in effect is automatically incorporated by reference. Upon such automatic incorporation, the revised plan replaces the version of the plan previously incorporated by reference.

The Control Measures Record includes measures that are necessary to ensure continuous compliance with applicable requirements. *See* Statement of Basis Section 7.2 ("[the control measures] ensure compliance with substantive requirements in the permit."). The source "must specify the control measures that it will implement in a plan or "Control Measures Record.

Pursuant to Section 39.5(8) of the Act, Illinois EPA must provide notice to the public, including an opportunity for public comment, on each significant modification to a CAAPP permit. Illinois' CAAPP further provides that "every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or recordkeeping requirements shall be considered significant." per Section 39.5(14)(c)(ii) of the Act. Additionally,

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[6] **Sorbent trap monitoring is addressed by USEPA Reference Method 30B, *Determination of Total Vapor Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps.***

[7] **In 35 IAC 225.130, a "sorbent trap monitoring system" is defined as follows,**

> **Sorbent Trap Monitoring System" means the equipment required by this Appendix B of this Part [35 IAC Part 225] for the continuous monitoring of Hg emissions, using paired sorbent traps containing iodated charcoal (IC) or other suitable reagents. This excepted monitoring system consists of a probe, the paired sorbent traps, an umbilical line, moisture removal components, an air tight sample pump, a gas flow meter, and an automated data acquisition and handling system. The monitoring system samples the stack gas at a rate proportional to the stack gas volumetric flowrate. The sampling is a batch process. Using the sample volume measured by the gas flow meter and the results of the analyses of the sorbent traps, the average mercury concentration in the stack gas for the sampling period is determined, in units of micrograms per dry standard cubic meter (µg/dscm). Mercury mass emissions for each hour in the sampling period are calculated using the average Hg concentration for that period, in conjunction with contemporaneous hourly measurements of the stack gas flow rate, corrected for the stack moisture content.**

the federal Title V regulations require all permit modification proceedings to provide adequate procedures for public notice and comment except for minor modifications. 40 CFR 70.7(h). The Permittee's implementation of the control measures contained in the Control Measures Record is essential to achieving and maintaining compliance with the applicable opacity and PM limits. Any change to those control measures must be processed consistent with the appropriate permit modification procedures required by state and federal law, including review by Illinois EPA and opportunity for public comment, as appropriate.

As written, the draft permit allows for the Control Measures Record to be revised and automatically incorporated by reference into the permit without being reviewed by Illinois EPA or the allowing the opportunity for public notice and comment. Thus, the Permittee could make significant changes to control measures that may not assure compliance with applicable requirements. Those changes would then be automatically incorporated into the draft permit without the opportunity for review and comment. To address this issue, the statement in Condition 5.2.9(a) that automatically incorporates any revisions made to the Control Measures Record should be removed from the permit.

Response:

The approach that is being used to incorporate the Control Measures Record into the CAAPP permit by reference is based on USEPA guidance for Title V permits. This guidance recognizes that Title V permits may incorporate certain types of plans by reference provided that the "incorporation by reference" (IBR) meets certain criteria. Consistent with this guidance, the subject language of the permit was crafted to incorporate by reference certain plans into the CAAPP permit and to provide for the automatic incorporation of subsequent revisions to those plans during the term of the permit into the permit without the need for a formal revision of the permit.

In its first White Paper concerning implementation of the Title V permit program (White Paper 1),[8] the USEPA briefly discussed IBR. This subject was more fully discussed in its second White Paper (White Paper 2).[9] Together with citation and cross-referencing, IBR was recognized as an important tool for efficiently addressing applicable requirements in Title V permits.

Much of USEPA guidance regarding IBR has dealt with the need to be specific and unambiguous with the materials being incorporated [*see,* White Paper 2, page 40 (IBR may only be allowed "to the extent that the manner of its application is clear.")]. However, in a well-publicized letter written a couple of years after issuance of the White Papers, USEPA answered a series of questions from the State and Territorial Air Pollution Program Administrators (STAPPA), one of which squarely addressed IBR for various Startup, Shutdown and Malfunction (SSM) and Operating and Maintenance (O & M) plans

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[8] **Memorandum, "White Paper for Streamlined Development of Part 70 Permit Applications," from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, dated July 10, 1995 (White Paper 1).**

[9] **Memorandum, "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program," from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, dated March 6, 1996 (White Paper 2).**

(STAPPA Letter).[10] USEPA explained that for those plans that, by virtue of a statute or rule, require incorporation into a Title V permit, IBR of the plans into a Title V permit was necessary. However, USEPA noted that revisions to incorporated plans could be accomplished without formal permit revision if the permit provided that such revisions are automatically incorporated during the term of the permit.[11]

The STAAPA letter addressed the Startup, Shutdown and Malfunction Plans and the Operation and Maintenance Plans required of certain sources subject to NESHAPs. USEPA also observed that plans under 40 CFR Part 63 not requiring incorporation to a Title V permit "…need not be incorporated by reference, nor must their content be included as permit terms, in order to assure compliance with the relevant part 63 applicable requirements." For this reopening proceeding, the control measures record is generally akin to various plans that are not required by law or rule to be incorporated into a Title V permit. This is because the basis for requiring the development and maintenance of this record is to support Periodic Monitoring rather than to fulfill independent applicable requirements. However, the Illinois EPA also recognized that the CAAPP permit requires the source to implement the control measures in conformance with the control measures record. For this reason, the Control Measures Record was incorporated by reference but the permit was crafted to allow for future revisions to be automatically incorporated in the manner set forth by USEPA in the STAAPA letter.[12] This approach is logical in the sense that the control measures are not applicable requirements *per se* and the substantive obligation to obtain prior approval from a permit authority is not present in underlying rules. Moreover, this approach maintains reasonable flexibility in the control measures used for material handling operations, consistent with the flexibility provided for by the initial permit, subject to appropriate supervision by the Illinois EPA since any revision to Control Measures Record must be provided to and therefore be available for review by the Illinois EPA.

Notwithstanding the rationale for this initial approach in the draft revised permit, further consideration of this issue has prompted the Illinois EPA to change the subject condition. More specifically, in Condition 5.2.9(a)(ii) and (iii), exceptions to the broader "incorporation by reference" of the Control Measures Record is created for revisions to the Control Measures Record for certain operations or processes. These operations are: 1) Coal unloading by rail; 2) Active and inactive coal pile operations; 3) Transfer to coal pile through the radial boom stacker; and 4) Dry fly ash load-out. These operations were identified on the basis of their potential for emissions, as they are the only operations addressed

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[10] Letter, John S. Seitz, Director, Office of Air Quality Planning and Standards, USEPA, to Robert Hodanbosi and Charles Lagges, STAPPA/ALAPCO, dated May 20, 1999 (STAPPA Letter).
[11] USEPA reasoned that the approach was in keeping with the underlying regulations in 40 Part 63 for SSM plans "which were promulgated subsequent to Part 70 and which contemplate that the source will be able to make changes to the SSM plan without the prior approval of the USEPA or the permitting authority."
[12] It should be noted that this USEPA guidance also does not require permit revisions for revisions to a Title V permit application where the application has previously been incorporated into a Title V permit by reference. *See,* White Paper 1 at p 23.

by the Control Measures Record whose emissions could, as a practical matter, exceed applicable standards.[13] For such operations, changes to the Control Measures Record affecting the nature, application or frequency of the relevant control measures will not be automatically incorporated into the permit but, instead, will require an appropriate permit revision before they can be implemented and maintained. This revision addresses USEPA's apparent concern regarding the possibility that certain control measures could be changed by the source without appropriate opportunity for review and approval.[14, 15]

The condition in the issued permit continues to provide reasonable flexibility in the control measures used by the source for material handling operations, consistent with the flexibility provided for by the prior permit. In addition, the condition will ensure that any future changes to the Control Measures Record are subject to appropriate supervision by the Illinois EPA, as any such revision

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[13] The specified operations were identified based on the information provided in the permit application for emission rates. Of the operations addressed by the Control Measures Record, these operations would have emissions in the absence of any control measures such that an exceedance might occur if control measures are not present. The emission rates of these four operations, which are not enclosed, are on the order of 5 to 10 pounds/hour. In comparison, the remaining operations are either located within buildings, underground or otherwise enclosed with maximum uncontrolled emission rates on the order of 0.5 pounds/hour or less. Additionally, there has not been a complaint history for nuisance dust or a history of any violations or opacity observations, as discussed elsewhere in this response, that would support higher scrutiny for the other operations addressed by the Control Measures Record.

[14] In addition, the notion that every control measure identified in the Control Measures Record is "essential" to compliance, as advanced by the comment, is incongruous with the draft revised permit and the current record. The Illinois EPA has not historically treated the various control measures as necessary to assure compliance with applicable opacity or particulate matter standards. As explained repeatedly in other permit proceedings involving the CAAPP permits for coal-fired power plants, the initial CAAPP permit for this source has only required the use of the Control Records Measure "to support periodic monitoring."

[15] At least part of USEPA's concern on this issue may be the result of some confusion regarding the use of incorporation by reference for the Control Measures Record. Although the Control Measures Record is newly-incorporated and is enforceable under the CAAPP permit, that is not to say that the record's independent existence has been rendered obsolete or subordinated to the permitting procedures of the CAAPP. This is because incorporation by reference merely operates to make the object of the incorporation a part of a subject document. It does not affect the origin of, or any subsequent change in, the object so incorporated. For example, a state or federal rule can be incorporated into a Title V permit and thereafter may be enforced as a permit requirement. But what the rule requires, and the manner by which rules can be amended, is outside of the purview of Title V program, as regulations can only be revised through formal rulemaking or action by a court. The Control Measures Record required by this permit is similarly situated. Changes to the Control Measures Record remain at the election of Powerton, not the Illinois EPA, USEPA or the public. If the approach to incorporation by reference cannot not accomplished automatically, as set forth in the draft revised permit, the only alternative is to compel the source to seek permit revision to incorporate an amended version of the Control Measures Record into the permit. As described above, the modified condition will require the source to seek a permit revision for any changes to the Control Measures Record involving the specified operations. Depending upon the nature of the change, the revision would follow the applicable procedures for administrative amendment, minor modification or significant modification.

must be provided to and therefore be available for review by the Illinois EPA.[16]

III. Comments Regarding Conditions in Section 6.4 of the Permit (Cross State Air Pollution Rule/Transport Rule (CSAPR/TR) Trading Program)

1. Permit Condition: 6.4
Related Conditions: 6.4.3(a), 6.4.5(d), 6.4.5(e)(ii)

Introduction:
USEPA has identified several concerns with Section 6.4 of the draft permit, "CSAPR/TR Trading Programs". These relate primarily to areas where Illinois EPA has not used the language contained in EPA's May 13, 2015 guidance document entitled "Title V Permit Guidance and Template for the Cross-State Air Pollution Rule," or has deviated from the language of the rule. USEPA developed this guidance in order to assist states in incorporating applicable TR requirements into Title V permits. The guidance includes a template that can be completed and inserted into a Title V permit in order to ensure that the TR requirements are completely and correctly incorporated. USEPA strongly encourages states to use the template. While state permitting authorities are not required to use the template, it does provide the minimum applicable TR requirements that must be included in a Title V permit. Our specific comments on Section 6.4 of the draft permit are as follows:

a. Comment:
The structure of Section 6.4 will require a significant modification to the permit to incorporate any future changes to the selected monitoring systems.

The template provided by USEPA in the May 13, 2015, guidance was structured to provide flexibility for sources subject to CSAPR. By providing the table outlining the multiple monitoring system options, the structure of the template allows for the use of the minor permit modification procedures under Title V if a facility choses to request an alternative monitoring system. While Illinois EPA is not required to use the template, the structure of Section 6.4 will require a significant modification to the permit to incorporate any future changes to the selected monitoring systems. This would likely result in a conflict between the approved monitoring system under CSAPR and the permit while the significant modification is being processed. The facility will be expected to comply with both the requirements of the approved plan and the requirements of the permit.

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[16] **A provision was included in the draft permit, Draft Condition 5.2.9(a)(ii), to assure prompt action by the source if the Illinois EPA's review of a revision to the Control Measures Record by the source identifies potential concerns. This provision, now Condition 5.2.9(a)(iv) in the issued permit, provides that if the source submits a revised Control Measures Record to the Illinois EPA and the Illinois EPA notifies the source of any deficiency in the revised Control Measures Record within 30 days, the source must respond with relevant additional information or a further revision to the Control Measures Record within 30 days of the written notice of the deficiency.**

To ensure the CAAPP includes the minimum requirements, EPA requests that the following provision be included in Section 6.4 of the CAAPP permit:

• From the "Description of TR Monitoring Provisions" section of the template: paragraph numbers 3 and 4.

Response:
The flexibility for possible changes to emission monitoring systems sought by this comment has been provided. However, the changes to the permit were not needed to do so because this flexibility was provided in the draft permit. Unlike certain other sources, Powerton requested that this flexibility be a component of the CAAPP permit. It should be noted that retaining this flexibility in the permit does not change the fact that changes to monitoring systems for emissions of sulfur dioxide (SO_2) and nitrogen oxides (NOx) are likely not possible because of the separate requirements for monitoring under 40 CFR Part 75 of the Acid Rain Program.

b. **Comment:**
Condition 6.4.3(a) does not include the link to USEPA's website where monitoring plans can be found.

Condition 6.4.3(a) of the permit requires the source to submit a monitoring plan to the USEPA Administrator. This language is similar to the language in the second paragraph of the "Description of TR Monitoring Provisions" in the template; however, Illinois EPA has not included the link to EPA's website where the monitoring plans can be found. USEPA requests that Illinois EPA include the link to ensure that any interested party knows where to find the information.

To ensure the CAAPP includes the minimum requirements, USEPA requests that the following provision be included in Section 6.4 of the CAAPP permit:

• From the "Description of TR Monitoring Provisions" section of the template: paragraph numbers 3 and 4 including the link to USEPA's website.

Response:
The Illinois EPA disagrees that including the address of the website in the permit would ensure that interested parties know where to find these plans. However, the "current" website address where these documents can be found is as follows:

http://www.epa.gov/airmarkets/emissions/monitoringplans.html

There are difficulties with the change to the permit requested by this comment, as discussed below. Accordingly, the Illinois EPA is not making the requested change. However, the Illinois EPA does plan to include the address of the relevant USEPA website in future Statements of Basis for sources that are subject to CSAPR.

- **The placement of information on this USEPA website is not an applicable requirement on the Permittee. Should the USEPA not post the documents to their website for whatever reason, the Permittee**

has no ability to make USEPA post those documents. Moreover, including the address in the permit would require the Permittee to certify compliance for this action that USEPA voluntarily conducts, i.e., the posting of certain plans that it receives on a website.

- **The USEPA may change or update the website so that the specified link becomes obsolete and no longer works.[17] In such circumstances, including a website address in the permit would not benefit interested parties. In addition, if the website link becomes obsolete the Permittee would need to submit an application for a revision to the permit to keep it current and the Illinois EPA would have to process a trivial revision to the permit.**

c. Comment:

The language in Condition 6.4.5(d) is inconsistent with the language in the TR.

It appears that the language in Condition 6.4.5(d) may have been intended to meet the requirements of 40 CFR 97.406(g), 97.506(g), and 97.606(g). If so, the language in the draft permit deviates from the language in the TR. If the intent of Condition 6.4.5(d) was to address these requirements, please revise the condition to incorporate the rule language. If Condition 6.4.5(d) was not meant to address these requirements, please add the appropriate requirements of the TR.

Response:

The Illinois EPA reviewed and found that Condition 6.4.5(d) was not intended to address 40 CFR 97.406, 506 and 606 but rather was intended to address Section 39.5(7)(h) of the Act as a requirement of the CAAPP. The Illinois EPA has added a new Condition 6.4.6 at the end of Section 6.4 providing the appropriate requirements of the TR as requested by the comment.

IV. Comments Regarding Conditions in Section 6.5 of the Permit (Control of Mercury Emissions from Coal-fired Electric Generating Units)

1. Permit Condition: 6.5
Related Conditions: 6.5.4(a), 6.6.3(a)(ii)(A)

Comment:

The draft revised CAAPP permit for Powerton would be deficient. I urge Illinois EPA to correct this deficiency in the issued permit:

The permit should require that mercury emissions be measured via continuous emissions monitors. Continuous monitors are commonplace tools that provide more consistent data to ensure that Powerton is in compliance with applicable limits for mercury emission.

Response:

Midwest Generation uses mercury sorbent trap continuous monitors to ensure compliance with the mercury limitations in the issued CAAPP Permit. As previously noted, mercury sorbent trap monitors are

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[17] **The Illinois EPA's experience is that USEPA periodically reworks its websites establishing new links to information and making the former links obsolete.**

excepted monitoring systems for continuous monitoring of mercury emissions.

The applicable regulatory requirements for mercury emissions of the coal boilers are addressed in the permit. In particular, Condition 6.5.4(a) addresses the state standard for mercury emissions, 35 IAC 225.294(c), which limits emissions on a rolling 12-month average either to a percentage of the mercury in the fuel fed to the boilers or with a limit in pounds per gigawatt-hour of electrical output (lbs/GWh). Condition 6.6.3(a)(ii)(A) addresses the federal limit pursuant 40 CFR 63.9991 and Table 2 to 40 CFR 63 Subpart UUUUU (the MATS rule), which limit emissions on a 30-day rolling average either in terms of the fuel heat input to the boilers (lbs/trillion Btu) or in terms of the electrical output (lbs/GWh).[18]

V. Comments Regarding Conditions in Section 6.6 of the Permit (Mercury and Air Toxics Standard (MATS) Rule)

1. Permit Condition: 6.6
Related Conditions: 6.6.3(d), 6.6.7(a)(i)

a. <u>Comment:</u>
The Illinois EPA must delineate what constitute "safety and good air pollution control practices for minimizing emissions" Pursuant to 40 CFR 63.10000(b). Draft Condition 6.6.3(d) states:

> Pursuant to 40 CFR 63.10000(b), at all times the Permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Illinois EPA which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Although the Draft Permit explains what criteria *might* be used to ascertain whether operation of an affected source is in a manner consistent with safety and good air pollution control practices for minimizing emissions, it should delineate exactly how this determination will be made. Illinois EPA needs to be transparent with the public about how it plans to evaluate whether this requirement is being met, and avoid being unnecessarily vague, which would make this provision nearly impossible to enforce as a practical matter. US EPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999); *In re Cash Creek Generation, LLC,* Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, *94-*96 (USEPA Jun. 22, 2012). Transparency regarding which precise measures constitute operation "in a manner consistent with safety and good air pollution practices" is further required in order to ensure that citizen enforcement, a critical component of Clean Air Act's enforcement

[18] **Note that the emission standards for mercury that apply to the coal boilers at Powerton, as well as to Illinois' other coal-fired utility boilers, do not apply on an hourly or daily basis. These standards apply over longer periods of time.**

scheme, is possible. *Id.; see also McEvoy v. IEI Barge Services, LLC.*, 622 F.3d 671 (7th Cir. 2010).

Response:
"General duty" provisions of relevant rules, such as 40 CFR 63.10000(b), are not appropriate for further elaboration or explanation in a CAAPP permit, as is requested by this comment. It is also not appropriate for the CAAPP permit to specify how the Illinois EPA will determine whether it considers the source to have fulfilled the obligations set forth in such provisions. The function of CAAPP permits is to set forth requirements and obligations that apply to sources, not to the Illinois EPA, the USEPA or other interested entities.[19] Accordingly, Condition 6.6.3(d) is proper and has been be retained in the revised permit as this condition reiterates the regulatory obligations established by 40 CFR 63.10000(b).

b. **Comment:**
The Illinois EPA must revise requirements for notification procedures for testing conducted pursuant to the MATS rule. Draft Condition 6.6.7(a)(i) states that, pursuant to federal regulations for Mercury and Air Toxics Standards, Midwest Generation must provide periodic test notifications pursuant to 40 CFR 63.7(b), 40 CFR 63.9(e), and 63.10030(d) at least 30 days prior to the start of test. However, 40 CFR 63.7(b)(1) and 40 CFR 63.9(e) require the permittee to provide notification at least 60 days prior to the commencement of the relevant tests. Thus, the 30-day advance notice requirement in Condition 6.6.7(a)(i) contradicts federal law. Earlier notification will ensure that Illinois EPA has adequate time to conduct appropriate review of the site-specific test plans before they are approved. The Illinois EPA must correct this error.

Response:
As originally adopted, 40 CFR 63.7(b)(1) would suggest a 60 day advance notification is required for performance tests under the MATS rule. However, this conflicts with the 30 day notification requirement in 40 CFR 63.10030. In recent technical corrections to the MATS rule, the USEPA corrected this error, revising Table 9 of 40 CFR 63 Subpart UUUUU, which addresses the applicability of the requirements of 40 CFR 63 Subpart A for sources subject to the MATS rule. The MATS rule now provides that 40 CFR 63.7(e)(1) is not applicable for purposes of the MATS rule. Rather 40 CFR 63.9 is applicable, except for the provision for 60-day advance notification prior to conducting a performance test in 40 CFR 63.9(e). Instead, the 30 day notification period per 40 CFR 63.10030(d) applies. [81 FR 20174 and 20202, April 6, 2016]

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[19] As a general matter, the Illinois EPA would use its expertise and experience to determine whether the source has met the general obligations established in 40 CFR 63.1000(b). This would most commonly be expected to occur in relation to exceedance(s). In an enforcement action for exceedance(s) of an emission standard in the MATS rule, in addition to violation(s) of that standard, a "second" violation involving 40 CFR 63.10000(b) could also be alleged if the exceedance(s) appears to be the result of inadequate maintenance or poor operating practices by the source.

VI. Comments Regarding Conditions in Section 7.1 of the Permit (Coal-Fired Boilers)

1. **Permit Conditions: 7.1.3(b) and (c)**
   Related Conditions: 7.2.3(b), 7.3.3(b) and 7.4.3(b)

   a. **Comment:**
   The term "as soon as practicable in Conditions 7.1.3(c)(ii), 7.2.3(b)(ii), 7.3.3(b)(ii), and 7.4.3(b)(ii) is not enforceable as a practical matter. The Illinois SIP at 35 IAC 201.262 allows the Permittee to receive Illinois EPA approval to continue operation of an affected operation in violation of applicable requirements in the event of a malfunction or breakdown only if the Permittee submits proof to Illinois EPA that such continued operation is necessary to prevent injury to persons or severe damage to equipment; or that such continued operation is required to provide essential services. The Illinois SIP at 35 IAC 201.261 requires a source to apply for this authorization in its Title V application, and requires the source to include in its application, among other things, "all measures, such as use of off-shift labor or equipment which will be taken to minimize the quantity of air contaminant emissions and length of time during which such operation will continue."

   These SIP requirements are reflected in, among others, draft permit Conditions 7.1.3(c)(ii), 7.2.3(b)(ii), 7.3.3(b)(ii), and 7.4.3(b)(ii). These Conditions state that upon occurrence of excess emissions due to malfunction or breakdown of an affected operation, the Permittee shall "as soon as practicable" repair the affected operation, remove the affected operation from service or undertake other action so that excess emissions cease. The term "as soon as practicable," however, is not defined in the draft permit; nor are there any prescribed time limits by which corrective actions need to be taken.

   The USEPA Administrator has previously been asked to determine the acceptability of the phrase "as soon as practicable" in a decision addressing a 2004 petition for objection to an Illinois Title V permit… *In the Matter of Midwest Generation, LCC Waukegan Generating Station,* Petition Number V-2004-5 (Order on Petition), September 22, 2005, at 11-13. In that case, however, Illinois EPA had qualified the "as soon as practicable" language by adding the following: "Unless the Permittee obtains an extension from the Illinois EPA, this shall be accomplished with 24 hours or noon of the Illinois EPA's next business day, whichever is later." The EPA Administrator thus concluded that the time limits in the provision constituted "boundaries" that made the term practically enforceable. *Id.* at 13.

   The draft permit does not include the boundaries that the USEPA affirmed in the Waukegan Petition Order. Nor are there any definitions or other qualifiers that would otherwise make this term enforceable as a practical matter. The Illinois EPA should, address these concerns so that the permit's limitations assure compliance with all applicable requirements. 40 CFR 70.6(a).

   Response:
   This comment addresses a matter that is outside the scope of this proceeding. The conditions of the current CAAPP permit addressed by

the comment relate to a requirement for the permittee to undertake corrective action "as soon as practicable" following an occurrence of excess emissions due to malfunction or breakdown. The language from these conditions was not the result of including an additional CAA applicable requirement in this permit. This condition also has not been revised in this proceeding. The CAAPP does not provide for a comprehensive review of permits in a reopening proceeding or a planned significant modification to a permit. Such a proceeding is limited to the planned changes to the permit. Without waiving this procedural point, and in the interests of correcting any misunderstanding, the Illinois EPA will provide its perspective on the issues raised by this comment.

The comment expresses the concern that the phrase "as soon as practicable" from the cited permit conditions is not practically enforceable. The comment points out that a 2005 petition response relating to a 2003 draft permit for the Waukegan Generating Station previously addressed the same issue. In that instance, the Administrator observed that the phrase "as soon as practicable" in the challenged condition was accompanied by a specified time limit.[20] At that time, the Administrator reasoned that the time limit of the condition provided boundaries to the phrase "as soon as practicable," thus making it practically enforceable. As the current permit for Powerton does not contain the same time limit in its conditions as the earlier version of the Waukegan permit, the comment recommends inclusion of time limits for corrective action to ensure practical enforceability of the subject condition.

The cited 24 hour time period in the malfunction and breakdown condition in the 2003 draft Waukegan permit did not become part of the condition of the permit issued in February 2006. It also did not become part of the initial permits issued to Powerton or the other coal-fired utilities in September 2005. This aspect of the draft conditions for malfunction and breakdown was not carried over into the issued permits. This was a consequence of refinements to these conditions made by the Illinois EPA in response to public comments generally addressing the SMB authorizations in the permit. In this regard, the February 7, 2006, Responsiveness Summary for the Waukegan permit addressed the

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[20] Specifically, Condition 7.1.3(c)(ii) of the 2003 draft Waukegan permit provided:

> Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable reduce boiler load, repair the affected boiler, or remove the affected boiler from service so that excess emissions cease. Unless the Permittee obtains an extension from the Illinois EPA, this shall be accomplished within 24 hours* or noon of the Illinois EPA's next business day,* whichever is later. The Permittee may obtain an extension for up to a total of 72 hours* from the Illinois EPA, Air Regional Office unless extraordinary circumstances exist….
>
> * For this purpose and other related provisions, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the boiler out of service.

changes that were made between the draft and issued permits.[21] Notably, it explained that the approach in the issued permits simplified the permits' malfunction and breakdown provisions by "removing details that might suggest that these authorizations provide greater advance authorization for excess emissions than is possible under Illinois' regulations."[22] In addition to other changes, the permit's language providing for extensions of authorized events was removed in its entirety out of concern that such provisions might appear to constitute authorization by the Illinois EPA for an "acceptable" duration for certain malfunction or breakdown events, foreclosing any enforcement for such events.[23] The 24-hour time period referred to in the Waukegan petition response was in the part of the provision that was not carried over into the issued permit.[24, 25] It was removed so that the permit would better reflect the underlying rules.

Reviving the earlier language to now address a concern regarding the practical enforceability of the condition is not appropriate or desirable.[26] While it would be a convenient resolution of the concern posed by this comment, such a change could raise technically-based concerns. For example, it could call into question the merits of a one-size-fits-all approach for corrective actions for malfunction and breakdown events. For the array of emission units at issue at Powerton, applying a 24-hour timeframe as the initial deadline for all corrective action could reasonably be viewed as arbitrary. As discussed below, it could also be construed as inconsistent with the provisions of 35 IAC Part 201 Subpart I that apply to malfunctions and breakdowns. When this rule is carefully considered in its full context, it becomes clear that the "as soon as practicable" language from the permit is not so vague as to render it unenforceable in the absence of a specific time period.

The phrase "as soon as practicable" is appropriately used in contexts where the nature of actual events that would be addressed are uncertain and could vary substantially. For example, the timing of corrective action for a major failure of particulate matter

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[21] As noted, similar changes affecting malfunction and breakdown events had been made by the Illinois EPA to the other coal-fired utility permits issued in September 2005.

[22] Responsiveness Summary for Midwest Generation, LLC, Waukegan Generating Station, dated February 7, 2006, at page 25.

[23] I*d.* at pages 25 and 28.

[24] In this petition response, USEPA was not actually responding to a petition to object to an issued CAAPP permit. Even though the Illinois EPA had not issued the CAAPP permit, this petition was filed with USEPA because the statutory deadline for filing such a petition is based on a step in the processing of a CAAPP permit other than the actual issuance of the CAAPP permit.

[25] An earlier approach of the draft permit also attempted to define the parameters of the permit authorization for malfunction and breakdown in relation to compliant periods of operation following such events. The issued permit sought to simplify matters by removing language relating to the duration of certain incidents (i.e., absence of excess emissions for a short period). The Responsiveness Summary explained that the language "was no longer needed" because the duration of the incidents covered by the authorization, including possible extensions of the same, was no longer being specified in the permit. *See,* Responsiveness Summary at page 26.

[26] Based on other comments, the provisions of the permit addressing 35 IAC Part 201, Subpart I continue to be of significant interest and concern to certain individuals and/or organizations.

control systems on a boiler could vary greatly depending on how quickly alternative generating resources can take over generation and the load on the affected boiler can be reduced. This could depend upon the demand on the grid when the failure occurs. It could take less than one hour or several hours. However, given current generating resources in Illinois, it would be extraordinary if corrective action could not be completed within 24 hours.

It should also be noted that 35 IAC Part 201 Subpart I is silent with respect to when minimization or corrective action that must take place or when excess emissions must cease. The Board did not explicitly address the timing of corrective and remedial actions for malfunction or breakdown events. The Board knows how to create such standards, as illustrated by the related reporting requirement for such events in 35 IAC 201.263, which requires "immediate reporting." Rather, the Board's approach in this rule contemplates that the timing of such actions is juxtaposed with the dangers and/or need for essential services arising from a given event. In this regard, corrective action must be viewed as something to be undertaken when a source is able to safely proceed without risk to personnel or severe danger to equipment, and without interfering with providing essential services.

This interplay of 35 IAC Part 201 Subpart I supports the language in the cited permit conditions. The phrase "as soon as practicable" should be understood in light of the separate meanings given to "as soon as" (i.e., in or after a short time) and "practicable" (i.e., capable of being done or accomplished). By requiring corrective action as soon as practicable after the occurrence of excess emissions resulting from malfunction or breakdown, the permit gives recognition to the Board's requirement that the timing of corrective action or minimization of emissions depends upon the circumstances related to the underlying event.[27] It also recognizes that a source's actions may be subject to review or question following an event as at most a prima facie defense is provided for the violation that accompanied a malfunction or breakdown event. As such, the subject permit conditions accurately reflect and implement the requirements of 35 IAC Part 201 Subpart I, consistent with Illinois' current SIP for malfunction and breakdown events.

b. **Comment:**
The reopening of this permit comes after the *NRDC v. EPA* decision and after USEPA's issuance of a final rule invalidating all SSM affirmative defenses in state SIPs. Nonetheless, this Draft Permit still contains provisions that violate USEPA's updated SSM requirements in three key ways.

First, Condition 7.1.3(c) (and 7.2.3(b), 7.3.3(b), etc.) grants Midwest Generation the authority to continue operating all operations at the Powerton Plant during periods of malfunction despite emissions exceedances, and provides a corresponding affirmative defense to injunctive relief for exceedances during

[27] **As this condition contains examples of the types of actions that might be appropriate, it makes clear the range of actions may be considered appropriate. It also makes clear that a series of actions may be appropriate if initial actions are not sufficient to restore compliance.**

those periods. Pursuant to *Nat. Res. Def. Council*, 749 F.3d at 1063, and USEPA's new SSM rule, these conditions are not permissible under the Clean Air Act and Illinois EPA should therefore remove them from the Permit.

Second, contrary to USEPA's new SSM rule, Condition 7.1.3(b) of the Draft Permit creates a complete bar to enforcement of exceedances during periods of startup, granting Midwest Generation authority to exceed its emission limits during startup of the facility. This condition should also be removed from the Powerton Plant's Permit.

Third and finally, even assuming an affirmative defense to penalties were lawful (it is not, as discussed herein), the permit runs contrary to published USEPA standards for determining when a facility may be eligible for an affirmative defense to statutory penalties. USEPA has published recommended criteria delineating when a facility may qualify for an affirmative defense to statutory penalties. *See* Steven A. Herman & Robert Perciasepe, *U.S. Envtl. Prot. Agency, State Implementation Plans: Policy regarding Excess Emissions during Malfunctions, Startup, and Shutdown* (hereinafter "USEPA 1999 Policy"), at 3-4 (Sep. 20, 1999). Those criteria include a test to determine if an event qualifies as a malfunction, which provides that malfunctions must not be part of a pattern or stem from an avoidable event, and must be resolved as quickly as possible while minimizing impacts on air emissions. *Id*. USEPA also provides that excess emissions during startup must not be part of a pattern or stem from an avoidable event. *Id*. at 5-6. The Draft Permit deviates significantly from these criteria, opening up the possibility that the Plant might be improperly granted an affirmative defense. For instance, the Draft Permit authorizes continued operation of both the coal-fired boilers and coal handling equipment during malfunctions where "necessary to provide essential service or to prevent injury to personnel or severe damage to equipment." *See* Condition 7.1.3(c)(i) and 7.2.3(b)(i). The Draft Permit includes no provision requiring that malfunctions not be part of a pattern or stem from an avoidable event, or that they be resolved as quickly as possible while minimizing impacts on air emissions. Similarly, the Draft Permit's authorization to exceed emission limits during startup requires only that the applicant take "all reasonable efforts . . . to minimize startup emissions, duration of individual startups and frequency of startups." *See* Condition 7.1.3(b)(i). Nowhere does the Draft Permit require that any exceedances during startup not be part of a pattern or stem from an avoidable event.

Although the Draft Permit mimics provisions in Illinois's existing SSM SIP, in USEPA's proposed SSM SIP Call Rule, USEPA has already found that Illinois's SSM provisions are inconsistent with the Clean Air Act:

> The USEPA believes that the inclusion of the complete bar to liability, including injunctive relief, the availability of the defense for violations during startup and shutdown, the burden-shifting effect, and the insufficiently robust qualifying criteria in Ill. Admin. Code tit. 35 Sec. 201.261, Ill. Admin. Code tit. 35 Sec. 201.262, and Ill. Admin. Code tit. 35 Sec. 201.265, are substantial inadequacies and render

> these specific SIP provisions impermissible. [78 FR at 12514-15]

Furthermore, USEPA subsequently re-drafted its proposed SIP Call rule to be consistent with *Nat. Res. Def. Council*, issuing a supplemental notice of proposed rulemaking that explicitly held that any defenses for emission exceedances during SSM events are unlawful:

> [The Illinois SIP] create[s] an impermissible affirmative defense for violations of SIP emission limits. These provisions would operate together to limit the jurisdiction of the federal court in an enforcement action and to preclude both liability and any form of judicial relief contemplated in CAA sections 113 and 304.
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> *State Implementation Plans: Response to Petition for Rulemaking; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction; Supplemental Proposal to Address Affirmative Defense Provisions in States Included in the Petition for Rulemaking and in Additional States: Proposed Rule,* 79 Fed. Reg. 55,920 (Sept. 17, 2014).

On May 22, 2015, USEPA finalized these changes, revising its guidance to make clear that affirmative defense provisions are not permissible in SIPs; and issuing SIP calls directing 23 statewide and local jurisdictions, including Illinois, to remove affirmative defense provisions from their SIPs. *USEPA, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015).

As such, in order to ensure that the CAAPP permit for Powerton remains consistent with Clean Air Act requirements, the permit should be revised to allow agencies and the public to hold Midwest Generation directly accountable any time the facility emits large amounts of excess emissions, including during periods of SSM.[28]

Response:
The comment does not support the changes to the CAAPP permit for Powerton that it recommends. As observed by this comment, the appropriate approach to SSM events for SIP emission limitations is a subject that USEPA has addressed in its SSM Rule or "SIP Call." Provisions of approved SIPs are not directly altered by the SIP call. USEPA clearly recognized this provision in the SIP Call as it stated:

> **When the EPA issues a final SIP call to a state, that action alone does not cause any automatic change in the legal status**

[28] In any event, the Draft Permit should clarify that any finding by Illinois EPA that emission exceedances qualify for a variance under the permit's SSM provisions does not preclude either a USEPA enforcement action or a citizen suit pursuant to the CAA, for the reasons given above.

> of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in response to the SIP call and the time that the EPA takes to evaluate and act upon the resulting SIP submission from the state pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place.
> 80 FR 33840 (June 12, 2015)

The SIP Call requires appropriate rulemaking by affected states and jurisdictions, not source-by-source actions during permitting. In this regard, as discussed in this comment, USEPA has reconsidered the provisions that address the potential for "excess emissions" during SSM in the SIPs of a number of states and local jurisdictions, including Illinois' SIP. USEPA has now found that many of these existing SIP provisions, including the relevant provisions of Illinois rules dealing with startup and malfunction and breakdown events, which USEPA had previously approved, are inconsistent with provisions of the CAA.[29] Accordingly, USEPA has issued the SIP Call, which requires those affected states and local jurisdictions to undertake rulemaking to appropriately revise their SIPs so that SSM events are appropriately addressed.[30]

Moreover, the USEPA does not mandate in the SIP Call that the current short-term emission limitations in the affected SIPs be made applicable at all times, as implied by this comment. Rather, the SIP Call requires that SIPs be revised so that they appropriately address SSM events. USEPA recognized that a number of different approaches may be possible and appropriate to address various types

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[29] Illinois' SIP, as codified at 35 IAC 201.149, prohibits startup (S) of an emission unit or continued operation of an emission unit during malfunction or breakdown (MB) if such operation would cause a violation of an applicable state emission standard absent express permit authorization. 35 IAC 201 Subpart I sets forth a two-step process for addressing compliance with state emission standards during SMB. The first step consists of obtaining authorization by means of a permit application to make a future claim of SMB. The second step involves making a viable claim of SMB. For startup, this consists of showing that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such an event. For MB, this consists of showing that continued operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. Inherent in this showing is the obligation to show that operation with excess emissions occurred only to the extent necessary.

Midwest Generation sought SMB authorizations for certain units at the Powerton Station. The Illinois EPA reviewed these requests and, as appropriate, granted authorizations in the CAAPP permit to make claims of SMB. These authorizations do not equate to an "automatic exemption" from otherwise applicable state standards. These authorizations are fully consistent with long-standing practice in Illinois for permitting and enforcement. In particular, the nature of the coal-fired utility boilers is such that certain excess emissions may occur during SMB that a source cannot reasonably avoid or readily anticipate. However, the source may be held appropriately accountable for excess emissions that should not have occurred regardless of the authorizations in the CAAPP permit related to SMB. In summary, the provisions in the CAAPP permit related to SMB do not translate into any advance determinations related to actual occurrences of excess emissions. Rather, they provide a framework whereby Midwest Generation is provided with the ability to make a claim of SMB, with any such claim being subject to further review.

[30] Parallel with its SIP Call related to SSM events and its work with affected states and other jurisdictions on revisions to their SIPs, USEPA is also committed to undertaking rulemaking to revise a number of emission standards that it has adopted. USEPA must revise these standards must so that these standard appropriately address emissions during SSM, consistent with its revised interpretation of the Clean Air Act.

of emission units and their possible circumstances. One possible approach recognized by the SIP Call is the adoption of "alternative emission limitations" for SSM events.[31] The adoption of alternative emission limitations, as contemplated by the SIP Call, would be a task that would be carried out through rulemaking. In Illinois, this rulemaking would involve a proceeding before the Board in which the Illinois EPA, the affected sources and interested members of the public could all participate. In other words, while it is correct that certain provisions of Illinois' SIP dealing with SMB events have now been found by USEPA to be inconsistent with the Clean Air Act, altering these regulatory provisions must proceed through the rule of law. As such, the proper response is rulemaking to correct the now-identified flaw in these provisions that were the result of earlier rulemaking. The SIP call will not affect the requirements of this CAAPP permit until after Illinois acts to develop and put into place revisions to Illinois' SIP that respond to the SIP call.[32]

It is also noteworthy that the SIP call is not based on a quantitative evaluation by USEPA of the impacts on ambient air quality of extra emissions during SSM events. Rather, the SIP call is based on a reassessment of the language of the Clean Air Act by USEPA, as guided by various court decisions related to SSM events.[33]

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[31] For purposes of the SIP Call, an alternative emission limitation is,

> … an emission limitation in a SIP that applies to a source during some but not all periods of normal operation (e.g., applies only during a specifically defined mode of operation such as startup or shutdown). An alternative emission limitation is a component of a continuously applicable SIP emission limitation, and it may take the form of a control measure such as a design, equipment, work practice or operational standard (whether or not numerical).
> 80 FR 33842 (June 12, 2015)

[32] As with many USEPA rulemakings related to the Clean Air Act, the SIP Call is the subject of an appeal filed with the U.S. Court of Appeals in the District of Columbia, though it is too early to determine what effect this lawsuit may have on the timing or the effectiveness of the SIP Call.

[33] In the SIP Call, USEPA addressed the implications of the SIP Call for air quality in its response to certain comments that opposed the SIP Call because USEPA had not demonstrated that the provisions at issue in the SIP Call have contributed to specific violations of air quality standards or caused harm to public health or the environment.

As explained in the February 2013 proposal, the Supplemental Notice of Proposed Rulemaking, the USEPA does not interpret its authority under Section 110(k)(5) of the CAA to require proof that a deficient SIP provision caused a specific violation of the NAAQS at a particular monitor on a particular date, or that a deficient SIP provision undermined a specific enforcement action.

> Section 110(k)(5) explicitly authorizes the EPA to make a finding that a SIP provision is substantially inadequate to "comply with any requirement of" the CAA, in addition to the authority to do so where a SIP is inadequate to attain and maintain the NAAQS or to address interstate transport. In light of the court's decision in NRDC v. EPA, the EPA has reexamined the question of whether affirmative defenses are consistent with CAA requirements for SIP provisions. As explained in this action, the EPA has concluded that such provisions are inconsistent with the requirements of section 113 and section 304.
> 80 FR 33859 (June 12, 2015)

In addition, this comment has not provided any information to support the claim that the emissions of coal-fired power plants associated with SSM events are significant.[34]

As a final point, notwithstanding representations made in this comment, the Illinois SIP contains no special provisions dealing with applicability of SIP emission limitations during <u>shutdown</u> of emission units. Accordingly, there are actually not any provisions in Illinois' SIP related to shutdown of emission units that need to be changed as a result of the SSM SIP Call.[35]

c. **<u>Comment:</u>**
USEPA has established precedent for removing improper SSM provisions from Title V Permits even before applicable State SIPs are updated. On June 14, 2016, USEPA issued a draft rule proposing to immediately eliminate emergency affirmative defense provisions in federal and state operating permit programs. This rule would remove language in operating permits that provides an affirmative defense that permittees can assert in civil enforcement cases when noncompliance with technology-based emission limits occurs because of qualifying emergency events, even before state SIPs have been updated. *USEPA, Removal of Title V Emergency Affirmative Defense Provisions from State Operating Permit Programs And Federal Operating Permit Program, Proposed Rule*, 81 FR 38,645 (June 14, 2016).

USEPA is proposing to remove these provisions immediately because they are inconsistent with the enforcement structure of the Clean Air Act and recent court decisions from the D.C. Circuit. As USEPA explains, "[t]hese provisions have never been required elements of state operating permit programs. The removal of these provisions is consistent with other recent EPA actions involving affirmative defenses and would help harmonize the enforcement and implementation of emission limitations across different CAA programs." *Id.* at 38,648. And critically, EPA *urges states to cease including these provisions immediately* even before the rule is finalized, or state SIPs are updated:

> EPA also encourages states to exercise their discretion to cease including emergency affirmative defense provisions as early as practicable. In many cases, there will be no reason for states to wait for the EPA to take final action on this proposal to begin implementing this suggestion.
> 81 Fed. Reg. at 38,653.

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[34] **It is also noteworthy that the SIP call is not based on a quantitative evaluation by USEPA of the impacts on ambient air quality of extra emissions during SSM events. Rather, the SIP call is based on a reassessment of the language of the Clean Air Act by USEPA, as guided by various court decisions related to SSM events.**

[35] **It should also be recognized that the permit conditions challenged by this comment, like conditions challenged by several other comments, are not within the scope of the revisions to the permit that were planned in this "reopening proceeding." Effectively, this comment challenges the validity of certain conditions in the 2015 CAAPP permit that implemented Illinois rules for startups and malfunction/breakdown events. The current proceeding is governed by the relevant requirements of Title V and Illinois' CAAPP program, which act to limit the scope to the revisions that would be made to the CAAPP permit in this proceeding.**

This exact same logic can and should lawfully be applied to the other unlawful portions of Illinois's State SIP for SSM events. Given this precedent, and the clear guidance from the national level that these exceptions are improper and should be phased out when possible, Illinois EPA has the authority to remove these provisions.

Response:
This comment does not justify the changes to the CAAPP permit for Powerton that are requested. Rather it shows that changes to Illinois' current provisions dealing with state emission standards during SMB events should occur through rulemaking. In this regard, this comment provides an example of such a rulemaking currently being carried out by USEPA to correct certain provisions in its own rules that it has determined to be inconsistent with the Clean Air Act.

In addition, this comment does not show that USEPA has recommended that states use their discretion when processing Title V permits to deviate from or disregard applicable state rules and SIPs. In the cited material, USEPA merely observes that its current rulemaking removing the Emergency Defense Provision from its rules for Title V Permit Programs need not be concluded before states can begin similar actions to appropriately revise the laws or rules that comprise their Title Permit V programs. This observation by USEPA, which relates to the respective roles of USEPA and the states in enacting Title V Permit Program, is not directed to the content of individual Title V permits that are currently being processed by states.

d. **Comment:**
There are several avenues available to remove the unlawful state SSM provisions from this permit. As discussed above, commenters believe Illinois EPA's best course of action with respect to the SSM provisions that have been invalidated by the DC Circuit and subsequent US EPA rules would be to rescind those sections entirely. However, even if Illinois EPA disagrees, it should at least take steps to ensure that any SIP provisions in individual facility permits such as this one are not allowed to persevere after the SIP is updated. There are a few different ways Illinois EPA could accomplish this.

First, Illinois EPA could establish explicit sunset provisions in the permit making clear that the SSM exceptions only apply for as long as the current state SSM SIP remains in place. This would be the most straightforward and defensible way to ensure that the permit does not needlessly allow violations of air quality standards during SSM events for longer than it should.

Illinois EPA also could include in the Title V permit an explicit provision noting that the CAAPP permit will be revisited and updated to remove all SSM exceptions once the state SIP is updated. This process is as straightforward or as defensible as the sunset provisions option discussed above, but it would at the least start a process for removing outdated SSM provisions that does not require the entire permit to be revisited.

Finally, separately and in addition to adding one of the provisions above, Illinois EPA should note in its statement of basis that to the extent any SSM provisions remain in this permit, they will automatically become unenforceable the moment Illinois updates its SSM SIP and removes the provisions underlying this permit's SSM exceptions. To be clear, we do not believe that doing so would fully discharge Illinois EPA's obligations here to stop violating the explicit terms of the CAA; but at least such a provision would make clear Illinois EPA's intent in issuing this permit.

Response:
As already discussed, the U.S. Circuit Court for the District of Columbia has not taken action invalidating the SMB provisions that are currently in Illinois' rules and SIP. Rather, the result of this court's ruling was that USEPA was required to initiate action to require Illinois to appropriately revise the provision of its SIP addressing SMB and the USEPA has taken such action. Accordingly, it would have been inappropriate in the issued permit for Powerton for the Illinois EPA to take the source-specific action requested by this comment. Rather the SMB provisions of Illinois' current SIP must be addressed by revisions to the SIP.

Moreover, as revisions to Illinois rules and SIP occur, the transition between those revised rules and the previous rules would necessarily be addressed in the rulemaking for revisions to the rules. It would have been inappropriate for the Illinois EPA in the permit for Powerton to presume how the revised rules will address the transition from the current rules. The inclusion of provisions in the permit for the Powerton that purported to address this transition would also have posed a risk that those provisions would be inconsistent and conflict with the approach ultimately taken in the revisions to the rules.[36]

e. **Comment:**
The draft permit would not provide sufficient guidance to control unnecessary exceedances during SSM events. Even if the underlying Illinois SSM SIP were lawful (which as discussed above, it is not), this Draft Permit still would fail to comply with those SIP provisions because it fails to provide guidance for what sort of malfunctions or startup events might justify exceedances. This problem recurs several times, in both the startup and the malfunction and breakdown sections of the Draft Permit.

In the context of malfunctions, the Draft Permit's key failure is that it does not describe what sort of malfunctions can justify exceedances of applicable air standards. In particular, the draft permit fails to explain what "essential service" would justify

[36] **Because of this potential conflict, the inclusion by the Illinois EPA of such provisions in the CAAPP permit for Powerton could have disrupted the settlement of the appeal of the initial 1995 CAAPP permit. It would certainly have constituted grounds for appeal by the source of the provisions of the revised CAAPP permit dealing with SMB. The inclusion of such provisions in the permit would have suggested that the Illinois EPA believed that it had the legal authority to specify in this permit how this transition would occur for Powerton. Moreover, it would have further suggested that the transition for Powerton could be handled differently than the transition for other sources that were addressed as part of a rulemaking proceeding.**

continuing to operate the facility during a malfunction. *See* Draft Permit at Condition 7.1.3(c)(i). Without limiting the set of "services" that a plant operator could use to justify continued operation, Illinois EPA runs the risk of allowing the Draft Permit's exemptions to render its limits on operating during malfunction events essentially meaningless. The Draft Permit also purports to establish a "continuing obligation to minimize excess emissions during malfunction or breakdown," Condition 7.1.3(c)(v) – but Illinois EPA has already acknowledged in the Statement of Basis for the draft 2015 permit that "the word 'minimize' is ambiguous and usually lacks regulatory meaning." I agree with Illinois EPA when it noted in the draft 2015 Permit documents that the word "minimize" is too vague and urge the agency to follow its own advice and replace that term, as well as all such vague language in the Draft Permit, with "new language [that] would more clearly reflect the objective for these conditions." Statement of Basis for 2015 Permit, at 33-4.

This problem is also prevalent in the startup provisions, where the permit purports to establish a "continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups." Draft Permit at Condition 7.1.3(b)(i). The same analysis applies to this provision as elucidated above.

Response:

This comment does not support changes to the permit that have been generally requested. As discussed, the CAAPP permit for Powerton implements provisions of Illinois' rules dealing with SMB events that are currently part of Illinois' approved SIP. These rules do not require permits to include "guidance for what sort of malfunctions or startup events might justify exceedances." The rules lay out a process for addressing startup and malfunction and breakdown events that involves two steps. The first step consists of seeking authorization by means of a permit application to prospectively make a claim related to malfunction/breakdown or startup.[37] This step occurs during permitting. However, the second step of Illinois' process for operation with excess emissions during malfunction or breakdown or startup occurs outside of a permit. This step addresses the showing that must be made when such an event actually occurs to make a viable claim of malfunction/breakdown or startup.[38] The second step provides the case-by-case determinations

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[37] **This first step enables conditions to be placed in permits that require source- or unit-specific recordkeeping and reporting relating to malfunction/breakdown and startup events and other requirements related to such events.**

[38] **For malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function". For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. To a certain extent, this showing may be evaluated on past practice. However, this showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may not routinely occur. Again, the malfunction/breakdown or startup authorization that would be provided in the Revised Permit would not preclude appropriate enforcement for violations of state emission standards during such events.**

for particular events that this comment effectively seeks to have included in the permit.

The underlying concern expressed by this comment is whether violations of emission limits that might occur at Powerton would be "justified." Consistent with the relevant rules, this is a matter that is appropriately concretely addressed in the context of potential enforcement, not speculatively in the context of permitting. In this regard, the additional provisions in the CAAPP permit that are generally requested by this comment are in direct contradiction to earlier comments by this commenter. The earlier comments argued that no exceedances of state emission standards during SSM should be condoned by the CAAPP permit for Powerton. In this comment, further specificity is now requested on exceedances during SSM that might be justified. Comments have requested that the CAAPP permits explicitly provide that they do not preclude enforcement by parties other than the State of Illinois. This comment now requests that provisions be included in the permit that would act to impede the success of such enforcement. However, it would be improper to include such provisions in the permit as it would be contrary to the provisions of the relevant state rules addressing emission exceedances during startups and malfunction events. It would also potentially hinder appropriate enforcement by the State of Illinois for such exceedances.

The changes requested by this comment would also require the Illinois EPA to address matters that as a practical matter are beyond the scope of permitting. If as a purely theoretical matter the Illinois EPA were to attempt to address potential violations of emission standards due to startups or malfunction events in permitting, the Illinois EPA would at a minimum need to speculate on the potential range and nature of those violations.[39] Given that malfunctions and breakdowns are not planned and the circumstances that cause exceedance during startup may also be unplanned, such effort would be unlikely to meaningfully address such events. They certainly would be far less effective than addressing such events in the context of potential enforcement.

This comment also does not identify a deficiency in the conditions of the permit that deal with SMB as compared to the relevant provisions of Illinois' current SIP that address SMB. As related to use of the term "minimize," the discussion in the Statement of Basis referred to by this comment addressed certain planned changes to the

[39] To fully address in a permit whether future exceedance might be justified, the Illinois EPA would also need to speculate on the circumstances in which such violations would occur. It would also need to consider possible actions or lapses by the source that contributed to the particular violations or the magnitude of the violations. The Illinois EPA would need to consider how violations should be approached if there were previous similar violations or a pattern of violation and how such similar violations or pattern of violations should be identified. This would require consideration of the actions that the source might or might not have taken in response to earlier violations. Even then, the Illinois EPA could not address future improvements in technology during the term of the permit that might be relevant to reducing the magnitude of excess emissions or eliminating exceedances entirely.

wording of various permit conditions related to control measures for material handling and processing operations. The discussion does not address conditions of the permit that deal with SMB and the provisions in Illinois' current rules for SMB.[40] For the proposed changes to the conditions that were being addressed, it was appropriate that the term "minimize" be removed since the usage of this term did not have a basis in regulations.[41] However, this does not show that the term "minimize" is not appropriate when addressing startup and malfunction and breakdown events. In this regard, the relevant rules, 35 IAC 201.261 and 201.262, specifically provide that sources must take actions to "minimize" startup emissions and excess emissions from malfunction and breakdown events. Given the subject addressed by these rules, it would not be inappropriate to construe the term minimize to mean that a source must take all reasonable efforts to reduce excess emissions. Likewise, when addressing malfunctions and breakdowns it is appropriate to use the term "essential services" as this term is expressly used in 35 IAC 201.262. This term does not merit further elaboration in the permit. The term is readily understood as a service that is important and cannot be provided by another party or at a later time.[42] Disagreement about its meaning should be considered in the context of specific events and the potential need for enforcement.[43]

f. Comment:

I have issues with excess emissions. Exactly what are the consequences for a source if emissions exceed an applicable limit or standard other than that the source must take action to lower the emissions. Are there any consequences for the source? Like is there any kind of taxation or is anything done, or is the source

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[40] The discussion in the Statement of Basis referred to by this comment addresses Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i). These conditions address the measures that are used for control of particulate matter emissions from coal handling operations, coal processing operations and fly ash handling operations. These conditions do not involve SMB events.

[41] The sentence in the Statement of Basis referred to by this comment stated that "the word 'minimize' is ambiguous and usually lack regulatory meaning." Upon reflection, this statement was a generalization and overly broad. The sentence should have simply stated that in the specific conditions that were being addressed, the term "minimize" was being removed as its meaning was potentially unclear, especially as it did not have a regulatory basis. In this regard, "minimize" can mean "to reduce to the smallest amount possible" or simply "to reduce." In the subject conditions, the second meaning was intended (i.e., control measures for the units that were being addressed must be implemented as necessary to *reduce* emissions to provide for compliance). However, in the absence of a regulatory context, the term minimize could have been incorrectly understood to have the first meaning. This clearly could have not been intended in these conditions as the CAAPP does authorize requirements that act simply to require that emission be reduced to the greatest extent possible independent of any applicable regulatory requirement that applies to those emissions. However, changes to the subject conditions were planned to avoid potential misunderstanding.

[42] 35 IAC 201.262 does indicate that "continued operations solely for the economic benefit of the owner or operator" shall not be considered providing essential service.

[43] It should also be recognized that the challenge to certain permit conditions made by these comments are outside the scope of this reopening proceeding. These comments broadly challenge the basis for conditions in the 2015 CAAPP permit that implement Illinois rules for startups and malfunction/breakdown events. However, the Illinois EPA did not propose to revise these conditions in this reopening proceeding. This proceeding is governed by the applicable requirements of Title V and Illinois' CAAPP program, which act to limit the scope to the revisions that would be planned to the CAAPP permit.

essentially just told "do not do that"? How long does the process usually take on average?

Response:
As observed by this comment, one general requirement on sources if excess emissions occur is to take appropriate action to expeditiously return to or come into compliance.[44] The second general requirement is to keep appropriate records for the incident. The third general requirement is to properly report the incident to the Illinois EPA, providing information describing the incident. Additional consequences for the source, including monetary penalties or other compensatory actions that must be taken, would be determined in the context of potential enforcement and, as such, are outside the scope of permitting. In this regard, when the Illinois EPA elects to initiate an enforcement action against a source for excess emissions, including seeking monetary penalties or compensatory measures, the Illinois EPA is typically represented in the enforcement action by the Office of the Illinois Attorney General.

g. Additional Comments Related to Startup:

Comments:
I do not understand why sources are allowed to "get by" during startup.
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Exceptions should not be allowed for startups

Response:
Applicable state rules do not allow sources to "get by" during startup.[45] If an emission unit is not able to comply with a state emission standard during startup, state rules at 35 IAC Part 201 Subpart I provide that alternative requirements may apply during startup of the unit. Most significantly, the source must take measures to minimize emissions from startup of such a unit, including complying with the relevant state emission standards to the extent that it is feasible to do so. If in practice such a source takes actions to appropriately minimize excess emissions from startups, 35 IAC 201.264 provide the source with a prima facie defense in an enforcement action for emissions violations that occur during startup. Accordingly, as the CAAPP permit for Powerton provides for exceedance of certain state emission standards during startup, Midwest Generation must take measures to reduce emissions during startups. For example, startups of the coal boilers must begin using natural gas to bring the boilers and their electrostatic

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[44] This permit would not specify nor should it specify how quickly compliance needs to be reestablished by the source in the event of an excess emissions. This is a matter that could be addressed in the context of enforcement if the Illinois EPA, USEPA or other concerned party determined that the source's response to the exceedance was not adequate. In this regard, the source's obligation to expeditiously come back into compliance upon the occurrence of excess emissions is separate from the reporting requirements for exceedances.

[45] It is assumed that comments concerning startup of emission units and other comments concerning shutdown and malfunction of units are directed at the role of 35 IAC Part 201 Subpart I, Malfunctions, Breakdowns or Startup, relative to the state emission standards that apply to the Powerton Station.

precipitators up to temperature before solid fuel begins to be burned in the boiler.

By way of background, certain types of emission units have emissions profiles during startup for certain pollutants that are different than the profiles during normal operation. At low levels of operation, as are present during startup, certain units cannot be operated to as effectively reduce the generation of emissions of certain pollutants as during normal operation. For safe and stable operation during startup, the operation of these units must be managed in a way that acts to increase the concentration of certain pollutants in their exhaust. The performance of the control devices on certain units may also be affected by temperature so that the devices are not effective until the flue gas has warmed up and the devices reach normal operating temperature. In addition, both emission units and control devices may need to be brought up to the normal operating load and operating temperature gradually to prevent damage from thermal expansion.

At the same time, until recently, state emission standards were developed to reflect emission rates that were achievable during normal operation of emission units and their control equipment. Emission standards were not developed to also address higher rates of emissions that might occur during startup when equipment would not necessarily be able to meet the emission standards that would be set for normal operation. This approach was permissible because, until recently, it was considered appropriate to address emission units that could not or potentially would not comply with established emission standards during startup on a case-by-case basis.[46] Differences in the design and operation of emissions units that would affect their emissions during startup, which could not be readily be addressed during a rulemaking proceeding, could be addressed for individual units in a way that was considered appropriate. Sources that could not guarantee compliance with state emission standards during startup would be required, as provided by 35 IAC 201 Subpart I, to generally explain during permitting how they would appropriately minimize emissions from startup.

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[46] The USEPA was using a similar approach in its historical rulemaking as the Pollution Control Board. For example, the USEPA's New Source Performance Standards (NSPS) generally provides that the adopted standards did not apply during startup, shutdown or malfunction. Instead, during such periods, sources were required to use good air pollution control practice to minimize emissions from subject units.

> …Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. 40 CFR 60.8(c)

> At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. … 40 CFR 60.11(d)

It is important to also recognize that many of Illinois' older emission standards were not adopted to directly address compliance with the National Ambient Air Quality Standards (NAAQS). Rather, these standards were adopted to reflect levels of emissions that would be achievable using appropriate control technology or measures to control emissions. The underlying assumption was that if all sources normally operated to comply with these technology-based standards, the NAAQS would be met. In addition, it was generally considered appropriate that sources should be required to take reasonable measures to reduce their emissions. It should also be understood that emission standards take a variety of forms. Many emission standards do not limit emissions in pounds per hour but in relative terms.[47] Accordingly, even though the amount of a pollutant emitted during the startup of an emission unit may be lower than during normal operation, the emissions may not comply with the applicable state standard during startup because of the terms in which the standard is expressed. Finally, startup is not a concern for most emission units. For many units, the technology used to control emissions is not affected by startup. For other units, startups occur quickly so startups do not interfere with compliance with emission standards that were developed for normal operation.

For coal-fired utility boilers, Illinois' current standards for emissions of particulate matter and carbon monoxide and for opacity potentially present issues for compliance during startup. Particulate matter and opacity are affected because the effectiveness of the electrostatic precipitators is dependent on temperature, being negatively affected by flue gas temperatures that are below the temperature at which the devices are designed to normally operate. Carbon monoxide is affected because the combustion systems must be designed for performance in the normal operating range of the boilers and are not as effective during the low levels of load during startup.

h. Additional Comments Related to Malfunction-Breakdown:

Comments:

I do not understand why sources are allowed to "get by" during malfunction. I know that equipment has mechanical problems but how can sources not be under regulations?
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Exceptions should not be allowed for malfunctions.

Response:
Applicable state rules do not allow sources to "get by" during malfunctions or breakdowns. If an emission unit would not reasonably be able to immediately be shutdown upon occurrence of a malfunction

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[47] Many of Illinois' emission standards are "rate based" rules. Emissions of a pollutant from subject units are limited in terms of emission per unit of activity, e.g., pounds of emissions per million Btu heat input or per ton of material processed. Other rules limit the concentration of the pollutant in the exhaust in ppm or grains per standard cubic. Other emission standards set performance requirements, such as use of a control device to achieve of at least a specified control efficiency for emissions of volatile organic material (VOM). Other standards set work practice requirements such as use of coatings that contain no more than a specific amount of VOM.

of breakdown that results in a violation of a state emission standard, 35 IAC Part 201 Subpart I provide that alternative requirements may apply for such a unit during a malfunction or breakdown event. As with exceedances of standards that occur during startup, the source must take reasonable measures to minimize excess emissions during the event. If in practice such a source takes actions to appropriately minimize excess emissions, 35 IAC 201.264 provide the source with a prima facie defense in an enforcement action for emissions violations that occurred during the event. The additional element in 35 IAC part 201 Subpart I for malfunction and breakdown events is that continued operation of an emission unit, rather than immediate shutdown, must be "…necessary to prevent injury to persons or severe damage to equipment; or … required to provide essential service," as provided in 35 IAC 201.262.

As a general matter, 35 IAC Part 201 Subpart I recognizes that certain emission units operate in a way or have functions that, as a practical manner, preclude immediate shutdown upon occurrence of a malfunction or breakdown that results in emissions that exceed an applicable state standard. This rule requires that during permitting, sources identify emissions units that have such functions and that could potentially need to continue to operate in the event of a malfunction or breakdown. As part of permitting, such sources must also generally describe the actions that would be taken in the events of malfunctions or breakdowns.

35 IAC Part 201 Subpart I also recognizes that if malfunctions and breakdown events do occur, those events need to be able to be addressed by the Illinois EPA on an individual, case-by-case basis. The emission units that are subject to specific state emission standards can differ greatly, considering their size, presence of backup units, past history of operation and other factors. When a malfunction and breakdown occurs, whether the source needed to continue to operate the unit should be open to review. Even if continued operation was generally needed, was the subject unit operated at a level that was consistent with that need? Did the source take appropriate actions to minimize emissions? This rule does not block enforcement if the Illinois EPA determines that operation should not have continued or the actions taken by the source were not sufficient.

Coal-fired utility boilers are clearly a type of emission unit for which continued operation may be needed in the event of a malfunction or breakdown. Providing electricity is an essential service. If possible, an electrical generating unit needs to continue to operate in the event of a malfunction or breakdown until other electrical generating unit can take over so that there is not a disruption in the electrical power supply to the public. The issue that is posed if such an event occurs is whether the source took appropriate actions. The specific state emission standards that are of potential concern for exceeded during such events are the standards for particulate matter. Fortunately, the electrostatic precipitators on existing coal-fired utility boilers are generally robust devices. At Powerton, emission testing shows that the precipitators normally operate with a significant margin of compliance. Unless there were a major malfunction of the

precipitators, the boilers should be expected to be able to continue to operate in compliance.

i. Additional Comment Related to Shutdown:

Comment:
I do not understand why sources are allowed to "get by" during shutdowns.

Response:
Illinois' rule does not provide any "exception" from compliance with state emission standards related to shutdown. While it is theoretically possible that there could be an emission unit that would not be able to reasonably comply with applicable emissions standards when during shutdown, this is not addressed by 35 IAC Part 201 Subpart I.

j. Additional Comments Related to Startup, Shutdown and Malfunction-Breakdown:

Comments:
How can sources not be under regulation from the Illinois EPA and have to report excess emissions during the startup, shutdown, and malfunction? Can the Illinois EPA strengthen the startup, shutdown, and malfunction procedures so that these events are documented and the public knows?
***
What happens with reporting, does Powerton have to do something that ensures that it makes an effort to reduce emissions associated with startup, shutdown, and malfunction?
***
I, as a member of the public, and I have seen this in the past, I'm not going to say that I know for sure that plants use startup, shutdown, and malfunction as excuses to cover up maybe when they want to flush out something or clean out something or they are just not complying for some reason, but I do have that suspicion personally. I just would like to know what stronger enforcement the Illinois EPA can require for startup, shutdown and malfunction. Please make them as stringent as possible. The concern is for local residents because, however long the duration, it adds significant amounts to what people are breathing.
***
When I look at discussion in the Statement of Basis, for a malfunction/breakdown the showing to allow continued operation must consist of a demonstration that continued operation was necessary to prevent injury to persons or severe damage to equipment or was required to provide essential services. I cannot think of anything more vague to give a blanket justification to malfunction. When I looked it up in the actual permit I see something that it cannot be solely for economic gain. Well, a plant could say that if it is supplying even a kilowatt of electricity to someone somewhere, it is for more than economic gain. That is such a poor bar that it makes me lack confidence in anything else that is being done on startup, shutdown and malfunction.
***
The permit needs to limit the emissions during startup, shutdown, and malfunction (SSM) periods. The USEPA has notified the Illinois

EPA that the SSM provisions in the Illinois SIP do not comply with the Clean Air Act! These provisions need to be updated to ensure that pollution limits apply at all times, no exemptions should be allowed. People's lungs cannot avoid pollution that exceeds applicable limits no matter when it happens. Therefore, this should not happen, must not be allowed, and the Clean Air Act must always protect public health.
***
The pollution should be contained during startup, shutdown and malfunctions. Powerton should be required to maintain low emissions at all times to minimize the impact on the health of area residents.
***
Emissions during so-called start up, shutdown and malfunction periods should be limited. The draft permit attempts to authorize such emission exceedances, but courts and the USEPA have ruled that those provisions are invalid under the Clean Air Act.

2. Permit Condition: 7.1.4(e)(ii)

a. Comment:

The draft permit would fail to ensure compliance with all applicable requirements that have come into effect since the initial CAAPP permit for Powerton was stayed in 2006. A fundamental purpose of the Title V permitting program is to ensure that regulated entities comply with requirements in the Clean Air Act. Under 40 CFR 70.1(b) and Section 504(a) of the Clean Air Act, each regulated major source must obtain a permit that "assures compliance by the source with all applicable requirements." Specifically, each Title V permit "shall include enforceable emission limitations and standards, a schedule of compliance, [submission of the results of any required monitoring], and such other conditions as are necessary to assure compliance with applicable requirements of this Act …." 42 U.S.C. § 7661c(a). In addition, Title V permit applicants must "submit with the permit application a compliance plan describing how the source will comply with all applicable requirements," 42 U.S.C. § 7661b(b)(1). The term "applicable requirement" is very broad and includes, among other things, any standard or requirement under Section 111 of the Act or "[a]ny term or condition of any preconstruction permit" or "[a]ny standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the [Clean Air] Act." 40 CFR 70.2(2)(1) – (2). In other words, applicable requirements include terms of construction permits and SIP requirements.

Draft Condition 7.1.4(e)(ii) would allow hourly SO_2 emissions to only exceed 6,000 pounds per hour for 5 percent of the hours that the boilers operate in each 30-day operating period, rolled daily. The Illinois EPA should be commended for including this provision in the permit because this is a limit on the frequency of spikes in SO_2 emissions. As the Sierra Club and others articulated at the hearings and in the comments in the Pollution Control Board rulemaking proceeding addressing the National Ambient Air Quality Standard (NAAQs) for SO_2 on a one hour average, R2015-021, spikes in SO_2

emissions pose a threat to public health.[48] The purpose of the one hour SO_2 NAAQS is to address short-term SO_2 emissions. A 30-day average, as is the case with the SO_2 one hour limit for the coal boilers at Powerton, is at odds with this objective. The inclusion of a limit on the frequency of spikes goes a long way towards addressing the concern with Powerton's 30-day average for one hour SO_2. However, there is still not a limit on the magnitude of spikes. In other words, there is no limit on how high those spikes can go as long as the SO_2 emissions are no more than 3,452 pounds per hour, 30-day average, and are no more than 6,000 pounds per hour for more than 5 percent of the operating hours.

The revised CAAPP permit should include a supplemental limit on the magnitude of spikes for Powerton due to the risks to the NAAQS posed by surges in SO_2 emissions that would be permissible under the current standards. In developing the SIP for hourly SO_2 emissions, the Illinois EPA modeled an SO_2 emission rate of 6,000 pounds per hour for Powerton, to account for the longer averaging time in the proposed emission limit. The 30-day average, however, allows for not only the variability in emissions that it is designed to accommodate, but also emission spikes higher than the 6,000 pounds per hour rate that was modeled.

Historically, USEPA's practice was to recommend that the averaging times for SIP emissions limits not exceed the averaging times of the relevant NAAQS. In past determinations addressing the historic 3-hour and 24-hour SO_2 NAAQS, USEPA went so far as to say that "…source compliance with the 30-day rolling average emission limit … does not adequately demonstrate compliance with the short term NAAQS."[49, 50] USEPA shifted from that practice in its G*uidance for 1-Hour SO_2 Nonattainment Area SIP Submissions (*2014 SO_2 SIP Guidance).[51] This guidance allows for the use of longer averaging times, but only under certain conditions and upon meeting added burdens. (2014 SO_2 SIP Guidance, at p. 22 through 40.)

Despite allowing longer-term averages, the 1-Hour SO_2 SIP Guidance indicates that the use of a longer-term average poses the risk of spikes and that, if such spikes occur too frequently or are too high, a risk to the hourly SO_2 NAAQS.

> EPA's general expectation that, if periods of hourly emissions above the critical emission value are a rare occurrence at a source, particularly if the magnitude of the emissions is not

[48] Pollution Control Board, Regulatory Proceeding R2015-021, In the Matter of: Amendments to 35 Ill. Adm. Code Part 214, Sulfur Limitations, Part 217, Nitrogen Oxides Emissions, and Part 225, Control of Emissions from Large Combustion Sources.

[49] *See, e.g.*, USEPA, Office of Air Quality Planning and Standards (OAQPS), Memorandum "Need for a Short-term Best Available Control Technology (BACT) Analysis for the Proposed William A. Zimmer Power Plant," (Nov. 24, 1986) *available at* http://www.epa.gov/region7/air/nsr/nsrmemos/shrtterm.pdf.

[50] See also, e.g., USEPA, OAQPS, *SO_2 Guideline Document* (Feb. 1994) *available at* http://www.epa.gov/ttn/oarpg/tlpgm.html.

[51] See USEPA, *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions*, April 2014, at p. 22, and accompanying memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards, USEPA, April 23, 2014 ("2014 SO_2 SIP Guidance") *available at https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf*

> substantially higher than the critical emissions value, these periods would be unlikely to have a significant impact on air quality, insofar as they would be very unlikely to occur repeatedly at the times when the meteorology is conducive for high ambient concentrations of SO_2.
> 2014 SO_2 SIP Guidance at 24

Powerton's 30-day average, even with the 5 percent limit on the frequency of spikes in Condition 7.1.4(e)(ii), poses the exact type of risk to the NAAQS about which USEPA cautioned. The 30-day average (the greatest averaging time that USEPA allowed in its 2014 SO_2 SIP Guidance) and the 5 percent limit on the frequency of spikes do not constrain the magnitude of emission spikes, and those spikes can exceed the critical emission value, i.e., 6,000 pounds per hour as modeled.[52] Recognizing this danger, the 2014 SO_2 SIP Guidance goes on to emphasize the importance of restricting the frequency *and magnitude* of this very type of spike that is allowed by the new long-term, 30-day average limit for the SO_2 emissions of the coal boilers at Powerton.

> The second important factor in assessing whether a long-term average limit provides appropriate protection against NAAQS violations is whether the source can be expected to comply with a long-term average limit in a manner that minimizes the frequency of occasions with elevated emissions and magnitude of emissions on those occasions. Use of long term average limits is most defensible if the frequency and magnitude of such occasions of elevated emissions will be minimal.
> 2014 SO2 SIP Guidance, at 33-34

If use of the methodology and conversion factor were sufficient to prevent large or frequent spikes, there would be no need to discuss this "second factor." Thus, this additional guidance demonstrates that USEPA does not view a 30-day average based on the appropriate conversion factor and methodology alone as sufficient to protect from spikes that pose a risk to the NAAQS, as Illinois EPA suggested in its presentation to the Pollution Control Board (Board) in Rulemaking Proceeding R2015-021.[53] As USEPA notes, longer-term average limits are only permissible when spikes of emissions above the critical emission value will be (1) rare and (2) limited in magnitude.

The record in this rulemaking for hourly SO_2 emissions reflects that the variability necessitating a 30-day average also necessitates supplemental limits to constrain the magnitude and frequency of spikes that result from that variability. In short, the same reasons that Illinois EPA, and indirectly Midwest Generation, give as the basis for a 30-day average also necessarily suggest a need for supplemental limits:

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[52] For instance, with a 30-day average of 3,452 pounds per hour and the 5 percent limit on the frequency of spikes, emissions at Powerton could spike to 9,000 pounds per hour for one hour per day every day for thirty days, operate with emissions slightly below the 3,452 pounds per hour for the rest of each day (for example, at 3,200 lb/hour) and the source would still meet 3,452 pounds per hour as a monthly average and comply with the 5 percent limit on spikes in Condition 7.1.4(e)(ii).

[53] Aug. 4, 2015 Tr. at 206:22 through 207:20.

> [V]ariation in emissions at the Powerton unit, based on the unit type and the control equipment used, can make compliance with an hourly limit difficult. This variability in fired units with dry scrubbers is discussed in the USEPA's guidance for the averaging periods, and this is a type of unit that was expected to need a longer averaging time with a more stringent numerical limit.[54]

As explained by the Illinois EPA during the Board hearing on August 4, 2015, this includes variability in emissions due to startups, shutdowns and malfunctions and also due to sulfur content in coal. Additionally, there can be variability due to control equipment not operating.[55]

Where, as here, there is the risk of spikes that threaten to exceed the NAAQS, USEPA emphasized supplemental limits as the appropriate means of restricting the magnitude and frequency of those spikes:

> Consequently, supplemental limits on the frequency and/or magnitude of occasions of elevated emissions can be a valuable element of a plan that protects against NAAQS violations. Limits against excessive frequency *(e.g.,* limitations on the number of times the hourly emissions exceed the critical emission value) and/or magnitude of elevated emissions *(e.g.,* an hourly emissions limit, supplementing the longer-term limit, which sets a cap on the magnitude of the peak hourly emissions rate) could further strengthen the justification for the use of longer term average limits.
> 2014 SO_2 SIP Guidance at 34

In particular, USEPA has emphasized the need for supplemental limits for sources that are using control equipment to limit emissions. Possible additional constraints identified by USEPA here include requirements regarding the operation of the control equipment (e.g., to be operating some given percentage of the time), setting monthly limits on the number of times that emissions can exceed the critical emission value, and setting a cap on the magnitude of peak emissions—i.e., something above the critical emission value. All of these options should be considered as supplemental limits for Powerton.

The predicted emissions variability at Powerton indicates that supplemental limits are needed to restrict the frequency and magnitude of emissions spikes. The 2014 SO_2 SIP Guidance offers multiple options for supplemental limits where emissions spikes pose a threat to the NAAQS. Consequently, in order to assure that there will not be an exceedance of the NAAQS through extreme spikes over the 6,000 pounds per hour emission rate used for Powerton in the SO_2 modeling, there needs to be a supplemental limit on the magnitude of spikes.

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[54] Pollution Control Board, Rulemaking Proceeding R2015-021, Illinois Environmental Protection Agency's Responses to Board's Pre-filed Questions, p. 10 - 11 (July 7, 2015).
[55] Transcript on Hearing on August 4, 2015, at 73 through 74 and at 118 through 119.

Accordingly, the revised CAAPP permit should also include a limit on the magnitude of spikes in hourly SO_2 emissions, in addition to the hourly limit that applies as a long-term, 30-day average, and the limit on frequency of emissions spikes in the draft permit.

Response:

This comment does not show that a further limit on SO_2 emissions, in addition to those established by 35 IAC 214.603(e) as addressed in Draft Conditions 7.1.4(e), is appropriate to further restrict Powerton's emissions. The variability in emissions is not of such a degree or extent that an additional limit is needed to prevent violations of the NAAQS for 1-hour SO_2. More importantly, this comment asks the Illinois EPA in this permit proceeding to improperly revisit a matter that has already been decided by rulemaking conducted by the Board.

In order to correct the comment's misimpressions, the Illinois EPA offers the following observations. First, the 2014 SO_2 SIP Guidance, reflects USEPA response to concerns expressed on its September 2011 draft guidance about how variability in hourly SO_2 emissions should be addressed. The USEPA concluded that it was acceptable for states to develop SO_2 limits with averaging times as long as 30-days to address the NAAQS for 1-hour SO_2.

> **After considering these comments, and analyzing the impact of emissions variability on air quality, the EPA expects that it may be possible in specific cases for states to develop control strategies that account for variability in 1-hour emissions rates through emission limits with averaging that are longer than 1-hour, using averaging times as long as 30-days, but still provide for attainment of the 2010 SO_2 NAAQS. 2014 SO_2 SIP Guidance, at 24.**

In the 2014 SO_2 SIP Guidance, USEPA codified a methodology for establishing equivalent SO_2 emission limits based on averaging time and whether compliance would be achieved by use of compliant fuel, wet scrubbing or dry scrubbing. For sources with dry scrubbing or sorbent injection, such as Powerton, USEPA determined that to be equivalent to an hourly SO_2 emission limit, a limit with a 30-day average needs to be no more than 63 percent of the hourly limit.[56] Since the emission rate used by the Illinois EPA for Powerton in the regional dispersion modeling to demonstrate attainment in the Pekin area of the NAAQS for 1-hour SO_2 or the critical emissions value for Powerton was 6,000 pounds of SO_2 per hour, the resulting equivalent limit on a 30-day average per the USEPA methodology is 3,780 pounds per hour, 30 day average. (6,000 lbs/hr x 0.63 = 3,780 lbs/hr.) In fact, the Board set a limit that is distinctly lower than required by the USEPA methodology, 3,452 pounds per hour, 30-day average. Arguably, this limit would have been sufficient by itself based on the USEPA's 2014 SO_2 SIP Guidance.[57]

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[56] For example, if an hourly limit would be 10,000 pounds per hour, the equivalent limit on a 30-day average would be 6,300 pounds per hour, 30-day average. (10,000 lbs SO_2/hr x 0.63 = 6,300 lbs SO_2/hr.)

[57] In this regard, in its 2014 SO_2 SIP Guidance, USEPA addresses variability in SO_2 emission rates and the difference between average emission rates on long-term averages and maximum hourly emission rates. The methodology that is set forth in this guidance

As observed in this comment, the additional limits for Powerton's SO_2 emission to address the NAAQS for 1-hour SO_2 were the subject of a rulemaking proceeding before the Board, Rulemaking Proceeding R2015-021,[58]. In fact, the environmental advocacy organizations that submitted this comment on the draft revised CAAPP permit, also participated in this rulemaking proceeding. They made similar comments in that proceeding with respect to the new requirements that would be set for Powerton's SO_2 emissions. In response to those concerns, the Illinois EPA proposed a second, supplemental limit on Powerton to more explicitly address so-called spikes in emission, limiting the occurrence of SO_2 emissions greater than 6,000 pounds per hour to no more than 5 percent of the time in any consecutive 30 operating-day period.

As explained by the Board in its Opinion and Order in R2015-021, dated October 1, 2015, the Board determined that these two new limits to address Powerton's SO_2 emissions should be determined to be acceptable and appropriate by USEPA and that the 2014 SO_2 SIP Guidance does not require further supplemental limits for Powerton. The Board cites relevant provisions in the 2014 SO_2 SIP Guidance.[59] The Board calls attention to statements by Illinois EPA during the proceeding that the chance of an exceedance of the NAAQS occurring with these limits, as hypothesized by certain comments, is "vanishingly small."[60] Given that the appropriate limits for Powerton's SO_2 emissions have been addressed before the Board in a

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provides a means to assess maximum hourly emission rates based on allowable limits that applies on a 30-day average. For a source such as Powerton whose emissions controlled by dry sorbent injection and which is now subject to a 30-day average limit of 3,452 pounds SO_2 per hour, this methodology provides that a maximum hourly emission rate of 5,479 pounds per hour may appropriately be used in the modelling for the attainment demonstration for the NAAQS for 1-hour SO_2. (3,452 lbs SO_2/hr (30-day average) ÷ 0.63 = 5,479 lbs SO_2/hr.)

[58] R2015-021. In the Matter of: Amendments to 35 Ill. Adm. Code Part 214, Sulfur Limitations, Part 217, Nitrogen Oxides Emissions, and Part 225, Control of Emissions from Large Combustion Sources.

[59] The Board specifically quotes an excerpt from the 2014 SO_2 SIP Guidance.

> **…if periods of hourly emissions above the critical emission value are a rare occurrence at a source, particularly if the magnitude of the emissions is not substantially higher than the critical emissions value, these periods would be unlikely to have a significant impact on air quality, insofar as they would be very unlikely to occur repeatedly at the times when the meteorology is conducive for high ambient concentrations of SO_2.**
> **2014 SO_2 SIP Guidance, at 24.**

[60] In particular, in its written responses to one of the questions from the Board in this proceeding, the Illinois EPA specifically explained that:

> **When emissions data for the stack servicing the Powerton boilers is evaluated with projected SO_2 emission controls in place, it is highly unlikely (far less than 1% chance) that there would be a significant exceedance of the critical value coinciding with meteorological conditions conducive for high ambient SO_2 concentrations.**
> **R2015-021, "Illinois Environmental Protection Agency's Responses to Board's Second Set of Pre-Filed Questions," July 23, 2015, at 13-14 (Question 54(d)).**

rulemaking proceeding, it would not be proper in this permitting proceeding to revisit this matter as requested by this comment.[61]

Finally, this comment does not actually show that legal authority exists under the CAAPP to include an additional limit for Powerton's SO_2 emissions in the revised CAAPP permit, as claimed by this comment. The CAAPP, as well as 40 CFR 70.2, clearly provide the NAAQS for 1-hour SO_2 is <u>not</u> an "applicable requirement" for Powerton. It would only be an applicable requirement if Powerton was a temporary source.[62] Accordingly, if an additional limit is to be established on Powerton's SO_2 emissions as related to the NAAQS for 1-hour SO_2, this legally would have to occur by a means other than this revised CAAPP permit. One such route would be through rulemaking by the Board. As already discussed, exactly such a rulemaking has already taken place and it appropriately addressed the further limits on Powerton's SO_2 emissions that are needed for the Pekin Area to comply with the NAAQS for 1-hour SO_2.

b. <u>Comment:</u>
Draft Condition 7.1.4(e)(ii) would limit SO_2 emissions that exceed 6,000 pounds per hour to no more than five percent of the operating hours, which limits the frequency of spikes in SO_2 emissions. Whose initiative led to this provision being included? Did the source or the Illinois EPA propose this?

<u>Response:</u>
The Illinois EPA included this limit in the draft permit because it is a new requirement that is now applicable to Powerton pursuant to

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[61] It should also be noted that this comment does not provide any technical or factual support for its claim that the limits adopted by the Board would be insufficient. Rather, this comment simply hypothesizes that sufficient variability in SO_2 emissions could exist such that this variability would lead to violations of the NAAQS for 1-hour SO_2 in the absence of some, unspecified further limit on SO_2 emissions.
[62] The USEPA acknowledged the limitations of the Title V permit program in addressing NAAQS in its original rulemaking for 40 CFR Part 70. In general, USEPA recognized that NAAQSs are to be addressed indirectly through the requirements adopted by States in their SIPs and not treated as requirements that are directly applicable to sources pursuant to Title V permits. USEPA observed:

> **Under the Act, NAAQS implementation is a requirement imposed on States in the SIP; it is not imposed directly on a source. In its final rule, EPA clarifies that the NAAQS and the increment and visibility requirements under part C of title I of the Act are applicable requirements for temporary sources only.**
> **57 FR 32276, July 21, 1992.**
> **(See, USEPA, Final Rule, Operating Permit Program, 57 FR 32250, July 21, 1992).**

This approach to NAAQS is also reflected in the definition of "applicable requirement" in 40 CFR 70.2:

> **40 CFR 70.2 Definitions:… *Applicable requirement* means all of the following as they apply to emissions units in a part 70 source (including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates):… (12) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.**

35 IAC 214.602 and 214.603(e), effective January 1, 2017.[63] In the unlikely event that the Illinois EPA had overlooked this rule when preparing the draft permit, the source or others would certainly have pointed this deficiency out to the Illinois EPA.

c. **Comment:**
My reading of the draft permit is that the state provisions for startup and malfunction and breakdown, including the associated defense in an enforcement action, would not apply to the new state standards for SO_2 emissions. Is this correct? If this is correct, then if the source were to exceed the five percent limit for hourly emissions above 6,000 pounds per hour, over a 30-day period, and exceeded this limit due to startup, malfunction and breakdown, the startup, malfunction and breakdown defense would not be available.

Response:
The reading of the draft permit presented in this comment is correct.[64] By way of further explanation, these new SO_2 standards at 35 IAC 214.306(e) were specifically adopted for Powerton and limit the amount rather than the rate of SO_2 emissions (i.e., limit SO_2 emissions from the coal boilers in pounds per hour rather than pounds per mmBtu fuel heat input). These standards were specifically adopted to address attainment of the NAAQS for 1-hour SO_2 in the Pekin Area. Variation in operation and future SO_2 emissions were addressed in the Board's rulemaking proceeding in which these standards were adopted.[65] The nature and circumstances of these new SO_2 standards for the boilers are very different than those of certain other state emission standards that also apply to the boilers for which it was appropriate to address startup and periods of malfunction and breakdown in the permit in accordance with 35 IAC Part 201 Subpart I.

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[63] It should be noted that the permit designates Condition 7.1.4(e) as being a "State Only Requirement." As also explained in the permit, this is because the underlying state rules have not yet been approved by the USEPA as part of Illinois' SIP.

[64] The limits in 35 IAC 214.603(e) are not addressed by the relevant provisions of the permit that address exceedances of state emission limits by the coal boilers during startup and malfunction/breakdown (Conditions 7.1.3(b) and 7.1.3(c)). As these conditions do not refer to these new standards that have been adopted for the SO_2 emissions of boilers (Condition 7.1.4(e)), these provisions for startups and malfunction/breakdown do not extend to these new state standards.

[65] As variation in Powerton's SO_2 emissions has been addressed by adoption of limits in 35 IAC 214.306(e) that apply on a 30-day rolling average basis, these limits are also not amenable to being addressed under 35 IAC Part 201 Subpart I. In particular, as related to malfunction/breakdown, 35 IAC Part 201 Subpart I was developed to address incidents in which an emission unit cannot as a practical manner be immediately shutdown in the event of a malfunction or breakdown that results in excess emissions. In this regard, upon occurrence of such an incident, 35 IAC Part 201 Subpart I only provides for continued operation as necessary to provide essential services or prevent injury to persons or severe damage to equipment. (Examples of emission units for which continued operation could be needed during such an incident include boilers serving hospitals, flares at oil refineries and furnaces holding molten metal.) These rules also provide that during such an incident, a source must take appropriate action to minimize excess emissions and resume compliance. However, since 35 IAC 214.306(e) addresses Powerton's emissions during each 30-day period, periods of "malfunction/breakdown" that are accompanied by excess emissions cannot actually be identified and addressed as they occur; they could only potentially be identified at the end of each 30-day period. Moreover, the determination of compliance must address overall operation during each 30-day period, not just operation during the alleged period of malfunction/breakdown.

3. Permit Condition: 7.1.6(a)

a. <u>Comment:</u>

The draft permit would not contain adequate testing, inspection and evaluation standards. The inspection and testing requirements in the Draft Permit are far too weak and would fail to ensure compliance with applicable requirements. The issued permit should require preventative measures be taken following combustion evaluations. Draft Condition 7.1.6(a)(i) would no longer require Midwest Generation to take preventative measures in response to combustion evaluations, as was required in the 2005 Permit. The Draft Permit would instead require only corrective measures, and leave the decision to Midwest Generation as to whether to make adjustments in response to the evaluations. The proactive approach of taking preventative measures would eliminate problems with the boilers before they start. Otherwise, if foreseeable problems do occur, Midwest Generation would have the discretion to merely react to them after the fact. It would be wholly inappropriate for Midwest Generation to continue to operate the boilers if Midwest Generation had knowledge that there was a need for preventative maintenance but did not perform that maintenance.

Similar changes in language have been made to previous permits, *See, e.g.* Waukegan Responsiveness Summary at 55. In its responsiveness summary for the Waukegan permit, Illinois EPA stated that Citizens Groups' comments on this condition "assume that preventative measures must be implemented as part of any combustion evaluation." Illinois EPA's Responsiveness Summary for the Significant Modification of the CAAPP Permit issued to Midwest Generation for the Waukegan Generating Station, issued June 16, 2016 ("Waukegan Responsiveness Summary") at 55. Citizens Groups' assumption is wholly reasonable; indeed, if a combustion evaluation reveals any problems with the boilers, it would be imprudent to *not* implement responsiveness measures. The Responsiveness Summary for Waukegan goes on to say that "in actual practice, combustion evaluations *may* not identify any preventative measures that *need* to be taken." *Id.* (emphasis added). Thus, the Waukegan Responsiveness Summary makes clear that combustion evaluations will, at times, identify preventative measures that must be taken. When this happens, the Permittee must take these preventative measures, and Condition 7.1.6(a)(i) should clearly state this.

These deficiencies parallel those seen in the SSM provisions. If the Illinois EPA does not require Midwest Generation take steps to prevent future violations of the permit limits, particularly when it is made aware of issues that could cause such violations, then the limits themselves become less meaningful. If a plant has to conduct a preventative analysis and take preventative steps at appropriate junctures, it will be less likely to violate its permit over the long run, which is precisely the purpose of the Title V permitting system. Thus, Illinois EPA should reinstate this obligation not just in the context of SSM events, but also where combustion tests reveal the need for preventative measures. These revisions in procedure should be reflected in the recordkeeping requirement, Condition 7.1.9(a)(vi), that pertains to this provision.

Response:
This comment addresses changes to the CAAPP permit for Powerton that were made in 2015 when a revised CAAPP permit was issued to resolve the appeal of the initial CAAPP permit. Accordingly, this comment is outside the scope of the current proceeding. Nevertheless, the Illinois EPA will explain why the change to the condition addressed by this comment was appropriate.

If anything, as this comment suggests that required combustion evaluations might identify "problems with a boiler," this comment confirms flaws with the language that was in this condition in the initial CAAPP permit. What the comment does not consider, and the Illinois EPA did not appropriately consider when originally developing this condition, is that combustion evaluations, by their nature, are preventative. This is because coal-fired utility boilers routinely operate well within this standard. Combustion evaluations should not be expected to reveal an exceedance of the state CO emission standard at 35 IAC 216.121. The required combustion evaluations serve both to confirm compliance with the state CO emission standard at 35 IAC 216.121 and to assure compliance with this standard.

Accordingly, as this condition originally provided that combustion evaluations include "…any adjustments and preventative and corrective measures undertaken…," it was not clear whether a distinction was intended between "preventative measures" and "corrective measures." If so, what was the distinction? In addition, as part of the settlement of the appeal of the initial CAAPP permit, it was recognized that any such distinction would not be appropriate or useful in the context of combustion evaluations. In the context of these combustion evaluations, the two classes of preventative actions that the permit contemplates that the source may take are adjustments and "other measures." In the permit, these other measures may be appropriately referred to as "corrective measures."[66]

While this comment suggests that there is a difference between "preventative measures" and "corrective measures" for combustion evaluations, it does not show what the difference might be. That is, if a combustion evaluation reveals "problems" for a boiler, the comment does not explain what the differences in implications or consequences would be for implementation of "preventative measures" compared to implementation of "corrective actions." Certainly, such differences would exist if the "problem" involved a deviation from the CO standard, but then this would then be addressed by the required deviation report.[67] Otherwise, in the context of the

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[66] Adjustments involve changes to how equipment is operated. Adjustments include changes to the standard settings for burners, dampers and other components of the combustion systems on a boiler. Adjustments also include changes to the settings in the automated combustion management system on a boiler. Changes to operational monitoring systems that accompany calibrations would also be adjustments.

[67] Pursuant to Section 39.5(7)(f)(ii) of the Act, reports for deviations must include information for "any corrective actions or preventative measures taken." However, as combustion evaluations are not "deviations," the terminology used for reporting of deviations is not appropriate for routine combustion evaluations. Moreover, in the unlikely event that a combustion evaluation would show a deviation, a "deviation report" would be required for that deviation. In that report, the source would need to describe

combustion evaluations required by Condition 7.6(a), it is not apparent why a distinction between preventative measures and corrective measures is meaningful. Accordingly, this distinction was not present in the revised permit that was issued in 2015.

This comment also does not show that, as well as requiring that the source conduct periodic combustion evaluations for the boilers that include measurements of CO concentrations at the start and conclusion of the evaluations, the permit should specify that adjustments or other measures must be made for the combustion systems of the boilers as part of these evaluations. The explicit requirement for measurements of CO concentration serves to address compliance with 35 IAC 216.121. Beyond this, the permit simply recognizes that these combustion evaluations will likely include adjustments and other measures to maintain good combustion. The permit does not excuse the source from taking any preventative actions that are necessary to maintain compliance. As observed by this comment, those actions would extend to actions that the source should have taken proactively to maintain compliance. However, the permit need not state that the source must take such measures as it is implicit that the source must take such actions so that the boilers routinely operate in compliance with 35 IAC 216.121, as well as all other emission standards that apply to the boilers.

b. Comment:

In discussing changes to Condition 7.1.6(a), the Illinois EPA has explained that such changes were made because the applicant was "constrained by the bounds of technical feasibility." 2015 Waukegan Statement of Basis at 17. However, Illinois EPA never explained why these actions were not technically feasible

Response:

As was explained in the 2015 Waukegan Statement of Basis, revisions to the CAAPP permit for the Waukegan Station were planned to make clear that Condition 7.1.6(a) only required diagnostic measurements of CO, not formal emission testing. Revisions were also planned to make clear that adjustments or other measures were not mandatory as part of a combustion evaluation. These revisions were planned as part of the settlement of the initial CAAPP permit for the Waukegan Station appeal as they would respond to the relevant concerns for Condition 7.1.6(a) raised by Midwest Generation in the appeal.

In fact, the 2015 Waukegan Statement of Basis indicates that Midwest Generation represented in its appeal that its ability to make adjustments and other measures as a part of a combustion evaluation was constrained by "technical feasibility." In this regard, this comment misrepresents the 2015 Waukegan Statement of Basis as the comment attributes this finding to the Illinois EPA.[68] Instead of

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"the corrective actions or preventative measures taken." In the context of such a report, a distinction can be made between the "corrective actions" taken to respond to or correct the deviation and the "preventative measures" taken to prevent or reduce the likelihood or severity of similar deviations in the future.

[68] With respect to the planned changes to Condition 7.1.6 and "technical feasibility," the 2015 Waukegan Statement of Basis stated:

> **Midwest Generation, LLC appealed the condition because the requirement for combustion evaluation appeared to require formalized emissions testing and its ability to make**

relating these concerns about Condition 7.1.6(a) to technical feasibility, it would have been clearer if these concerns had been related to the impropriety of mandating that certain actions be taken if those actions would not be necessary or appropriate in all circumstances.

4. Permit Condition: 7.1.6(a)(iii)

Comment:
Midwest Generation generally agrees with the objective behind Draft Condition 7.1.6(a)(iii).[69] It would avoid the need to operate a boiler for the sole purpose of conducting a combustion evaluation if a boiler would otherwise not be operated. Midwest Generation is requesting a slight refinement to Condition 7.1.6(a)(iii) to address a situation of minimal operation in the last 30 days of the semi-annual period. This change would enable appropriate scheduling of combustion evaluation activities in the event that a boiler is off-line for the majority of the last 30 days of a semi-annual period or is returned to service toward the end of that period. With this refinement, this condition would be as follows:

> Notwithstanding Condition 7.1.6(a)(i), if during the last 30 days of the semi-annual period an affected boiler is not on-line for 168 hours or more, the Permittee shall perform the combustion evaluation for such boiler within 30 operating days of the end of the semi-annual period.

Response:
The issued permit includes an additional condition to address the issue raised in this comment. In this regard, it is appropriate for the revised CAAPP permit to broadly address the possibility that the

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"adjustments and preventative and corrective measures" was constrained by the bounds of technical feasibility. In settlement negotiations, the Illinois EPA acknowledged that the original intent of this condition was not to require formal diagnostic testing, which is an engineering evaluation of systems to gather data beyond the standard operational measurements. Rather, the intent was to obtain quantitative information from the standard operational measurements on a continuous or periodic basis and thus serve as an assessment for the functioning of combustion systems in a boiler. The permit would be revised to clarify this aspect of the combustion evaluation.

The permit would also be revised to clarify that "adjustments and preventative and corrective measures" are not a compulsory requirement for each combustion evaluation. The original intent was to ensure that adjustments or other corrective measures would occur if, depending upon the findings of a given evaluation, such changes are needed to restore combustion efficiency. The revised permit would now eliminate the ambiguity of the earlier condition by providing that combustion evaluations include "any adjustments and/or corrective measures" undertaken to maintain combustion efficiency. The source is still required, consistent with the existing recordkeeping requirements of the CAAPP permit, to maintain records of the adjustments and corrective measures resulting from the combustion evaluation.
2015 Waukegan Statement of Basis, at 17 and 18

[69] Draft Condition 7.1.6(a)(iii) would provide that:

> Notwithstanding Condition 7.1.6(a)(i), if an affected boiler is off-line during the last 30 days of the semi-annual period, the Permittee shall perform the combustion evaluation for such period within 30 days of restart of the boiler.

amount of time that a boiler operates during a semi-annual period is not sufficient for a combustion evaluation to reasonably be scheduled and conducted when the boiler would otherwise be operating, as generally requested by this comment.[70] It is desirable that the required combustion evaluations be conducted during periods of normally scheduled operation of a boiler so that the evaluations address representative operation of the boiler. The requirement to conduct a combustion evaluation also should not lead to the operation of and emissions from a boiler that would not otherwise have occurred but for a requirement to conduct a combustion evaluation.[71]

New Condition 7.1.6(a)(iii)(B) in the issued permit now provides that if a boiler is operated for less than 40 days in a semi-annual period, a combustion evaluation need not be conducted in that period. Instead, a combustion evaluation may be conducted within the next 30 days that the boiler operates. The criterion for deferral of a combustion evaluation, i.e., operation of a boiler for less than 40 days, reflects operation of a boiler on somewhat less than one quarter of the days in a semi-annual period.[72] This is clearly a low level of operation at which it could be challenging or very challenging for the source to make arrangements for a combustion evaluation. It is also a level of operation of a boiler at which an evaluation may not be warranted in every semi-annual period. However, it is still appropriate for the CAAPP permit to require that a combustion evaluation subsequently be conducted for a boiler in an expeditious manner. The period within which the permit would require this evaluation to subsequently be conducted, 30-operating days, would accomplish this. This period would also provide the source with a reasonable opportunity to arrange this evaluation, since it would now know that it has a set number of days of scheduled operation of a boiler within which to conduct the evaluation.[73]

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[70] The Powerton plant currently appears to be operating as an "intermittent load" plant rather than as a base-load power plant. Rather than being operated on an essentially continuous basis, except for periodic outages for maintenance and repair, the plant is being operated on days when other power plants, which do operate as base-load plants, are not sufficient to meet the demand for electricity.

[71] Prior to this comment, the assumption underlying the required timing of combustion evaluations for the boilers was that Powerton functions as a base-load power plant. Combustion evaluations could easily be planned to take place when the boilers were in operation. In practice, the CAAPP permit would require combustion evaluations for each boiler to be conducted for about every 165 to 175 days of actual operation.

However, if the plant is operating as an intermediate load plant, combustion evaluations could be more difficult or very difficult to arrange. The operation of boilers may not be scheduled until a day or two before they are brought into operation. They may then operation on a day-by-day basis. In addition, combustion evaluation could still be conducted for every 165 to 175 days of actual operation of a boiler even if the evaluation were required less often than semi-annually.

[72] Operation for 40 days is equivalent to operating less than about 22 percent of the available days in a semiannual period. The first semi-annual period each year has either 181 or 182 days; the second semi-annual period has 184 days. [40 days ÷ 181 days = 0.221, 40 days ÷ 184 days = 0.217days, ≈ 40 days]

[73] It should be noted that Draft Condition 7.1.6(a)(iii) addressed the possibility that a boiler would not operate in the last 30 days of a semi-annual period. This condition is also included in the issued CAAPP permit, renumbered as Condition 7.1.6(a)(iii)(A). This condition addresses a different scenario than posed in this comment, i.e., a scenario in which events occur for a boiler such that a combustion evaluation cannot be conducted in

5. Permit Condition: 7.1.7-1(a)(iii)

Comment:

The Draft Permit would not contain adequate testing, inspection and evaluation standards. The inspection and testing requirements contained in the Draft Permit would be far too weak and fail to ensure compliance with applicable requirements. The Draft Permit should be revised to resolve the problematic conditions below.

The revised permit should increase the frequency of PM emissions tests. Under Draft Condition 7.1.7-1(a)(iii), PM stack tests must be done (1) within 15 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM is less than 20 percent; (2) within 27 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM is between 20 and 40 percent; and (3) within 39 months of the preceding PM stack test if, based on that stack test, the compliance margin for PM measurement was greater than 40 percent.

The length of time between those drawn-out stack tests renders them insufficient to demonstrate compliance with PM limits. As set forth in Draft Condition 7.1.4(b) and discussed in the Statement of Basis at Section 4.1, PM limits for the Powerton boilers are *1-hour* limits over a three-hour averaging period: 0.10 lb/MMBtu in any single hour for each of the affected boilers. Stack tests that take place up to 39 months apart simply cannot ensure that, during *every hour* the boilers are operational, they are complying with the limit. *See Sierra Club v. EPA*, 536 F.3d 673, 674-75 (D.C. Cir. 2008) (noting that annual monitoring would not ensure compliance with a daily emission limit).

The inadequacy of the stack tests to assure compliance would not be cured by the CAM plan for PM in the Draft Permit because, as discussed in detail above, that CAM plan is itself inadequate to ensure compliance with PM limits. As such, because the Draft Permit does not contain sufficient monitoring and testing requirements to assure compliance with the PM emission limits, it falls short of Title V's requirements. *See Sierra Club*, 536 F.3d at 674-75 ("a monitoring requirement insufficient 'to assure compliance' with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards."); *see also NRDC v. EPA*, 194 F.3d at 136; *In the Matter of Midwest Generation, LCC, Waukegan Generating Station*, 2005 EPA CAA Title V LEXIS 14 at *44-45; 40 CFR 70.6(a)(3)(i)(B); 40 CFR 70.6(c)(1). The Draft Permit should be revised to require PM CEMS, instead of infrequent PM stack tests paired with inadequate parametric monitoring, to demonstrate compliance with the one-hour PM emissions limits at the Plant.

Response:

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the last 30 days of a semi-annual period. However, the issued permit also provides that in such a scenario, the combustion evaluation must subsequently be conducted within 30 boiler operating days, rather than simply 30 days. This should avoid a situation in which a boiler would have to be operated for the purpose of conducting a combustion evaluation when the boiler would not otherwise be operated.

As observed by this comment, the PM testing that is required for the boilers by Condition 7.1.7-1(a)(iii) is not relied upon to address ongoing, day-to-day compliance with the applicable state PM emission standards. Rather, the permit relies on the CAM plans as the means to address ongoing compliance between testing. In this regard, as explained by USEPA when adopting 40 CFR Part 64,

> **[t]he CAM approach builds on the premise that if an emissions unit is proven to be capable of achieving compliance as documented by a compliance or performance test and is thereafter operated under the conditions anticipated and if the control equipment is properly operated and maintained, then there will be a reasonable assurance that the emission unit will remain in compliance. In most cases, this relationship can be shown to exist through results from the performance testing without additional site-specific correlation of operational indicators with actual emission values. The CAM approach builds on this fundamental premise of the regulatory structure.**
> **62 FR 54900, 54926, Oct. 22, 1997**

While this comment claims that there are deficiencies in the CAM plans for the coal boilers, the CAM plans addressed by the issued permit are not deficient. The specific comments that have been made on these CAM plans have been appropriately considered and addressed by the Illinois EPA. As such, this comment does not show that PM CEMS are necessary on the boilers to address compliance with the applicable state standards.

It should also be noted that, other than to observe that the required PM testing does not serve to address ongoing compliance, this comment does not actually comment on the "tiered approach" for such testing that is contained in the permit, other than to suggest that it is not a substitute for appropriate Periodic Monitoring. Tiered approaches to emission testing are used in a number of USEPA regulations. They act to reasonably reduce the burden associated with testing for sources that comply with an applicable emission standard by a significant margin of compliance. Tiered approaches also enable a regulatory authority to focus its resources on emission units whose compliance is less clear. A tiered approach to PM testing, as contained in Condition 7.1.7-1(a)(iii), is appropriate for the coal boilers at Powerton.[74, 75]

6. Permit Condition: 7.1.7-1(b)(i)

a. <u>Comment:</u>
Furthermore, Condition 7.1.7-1(b)(1) states that the plant operator must "operate each affected boiler at maximum normal operating load conditions during each performance test." The condition then notes that "maximum normal operating load" should "be representative of

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[74] For the coal boilers at Powerton, the compliance margins shown in historical PM emission testing were over 40 percent so that it is reasonable to expect that testing would be needed every 39 months.
[75] Another approach to tiered testing is one that increases the interval between required tests after a number of tests have been conducted that all show emissions are below the applicable regulatory limit or a set value below that limit.

unit specific normal operations." This condition goes a long way toward ensuring that the tests take place at times that capture the normal operation of the plant, but not quite far enough. Specifically, we are concerned that it is unnecessarily vague, such that it might inadvertently allow stack tests to take place that do not necessarily capture conditions at the plant's peak operation. To ensure that maximum PM emissions are captured in each test, Illinois EPA should further define "maximum normal operating load" as the highest level of sustained operation of the plant (i.e. for more than twelve hours) in the period since the last stack test.

Response:

The concerns expressed by this comment have been addressed in the issued permit as Condition 7.1.7-1(b)(i) uses the terminology of the MATS rule to define the operating load at which the coal boilers must be operated during periodic emission testing.

Condition 7.1.7-1(b)(i) in the issued permit is fully consistent with the principle expressed in the USEPA Stack Test Guidance that, to the fullest extent possible, emission testing should be conducted under conditions that are representative of those that pose the greatest challenge to the ability of a unit to meet applicable limits.[76] This guidance does not state that emission testing must be conducted at the maximum load at which the tested emission unit would subsequently ever be operated, as implied by this comment.

It is also noteworthy that, as already discussed, PM testing of the coal-fired boilers showed compliance with the applicable state PM standards with a significant margins of compliance. The results of future testing for the Powerton Station should likewise not be expected to be close to the applicable standards.[77] Moreover, if this

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[76] The USEPA Stack Test Guidance is not directly applicable to the emission testing addressed by this comment. As explained in this guidance,

> **…for the purpose of this guidance, stack testing is being more narrowly defined as – Any performance testing conducted for the purposes of determining and demonstrating compliance with applicable standards of 40 CFR Parts 60, 61 and 63…**
> **USEPA Stack Testing Guidance, p. 3**

[77] The USEPA Stack Testing Guidance does acknowledge that a permitting authority, presumably in appropriate circumstances, may restrict the operation of an emission unit based on the conditions under which emission testing was conducted.

> **This guidance does not affect the ability of delegated agencies to prohibit a facility from operating at levels of capacity different from the level used during the stack test, or to restrict production to reflect conditions equivalent to those present during the stack test.**
> **USEPA's Stack Testing Guidance, p. 16.**

At the same time, the USEPA Stack Testing Guidance also indicates that the decision whether further testing should occur is one for which the permitting agency must make, presumably based on its experience and judgment,

> **…the facility is not required automatically to retest if the facility's operating conditions subsequently vary from those in place during the performance test. The delegated agency must determine whether retesting is warranted; however, in both instances, the facility is responsible for demonstrating to the satisfaction of the delegated agency that the facility is able to continuously comply with the emissions**

is the case or if boilers are operated in such a way that further emission testing is warranted to confirm compliance with the state PM standard, the Illinois EPA is authorized to require that Midwest Generation have such testing conducted.[78]

b. **Comment:**

Under the draft permit, the circumstances that would trigger pm emissions measurements would be too lenient. Draft Condition 7.1.7-1(a)(ii) would change how PM emissions measurements are to be conducted at Powerton. Condition 7.1.7-1(a)(ii) of the 2015 Permit required Midwest Generation to collect PM emission measurements:

> [W]ithin 90 days of operating an affected boiler for more than 72 hours total in a calendar quarter at a load that is more than 10 Megawatts or 5 percent (whichever is greatest) higher than the greatest load on the boiler, during the most recent set of PM tests on the affected boiler in which compliance is shown.

The Draft Permit removes this condition entirely. As stated in the Statement of Basis, "[w]ith changes that have occurred since 2005, this condition is no longer needed. Testing of the boilers shows a significant margin of compliance with the state standard for PM. The boilers are subject to CAM for PM." Statement of Basis at 28.

The Illinois EPA's analysis is not convincing, primarily because, as noted above, the CAM for PM is insufficient to ensure compliance with the applicable PM standard. Although we have previously criticized the loosening of provisions like the original Condition 7.1.7-1(a)(ii), removing them entirely is far more damaging to the prospects of continued compliance with PM standards. Thus, we urge that Illinois EPA retain the requirement of the 2015 Permit.

Response:

In response to this and other comments, Draft Condition 7.1.7-1(a)(ii) has not been included in the issued permit. Rather, Condition 7.1.7-1(b)(i) now specifies that the periodic testing of the coal boilers, as is required to authoritatively confirm compliance with state PM emission standards, must be conducted at "maximum normal operating load conditions." This requirement, which uses terminology in the MATS rule for PM emission testing at 40 CFR 63.10007(a)(2), will serve to ensure that the required emission testing is conducted at sufficiently high load that the results can be considered representative.[79] **It is also noteworthy that the PM**

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limits when operating under expected operating conditions, taking into consideration the factors discussed above ….
USEPA Stack Testing Guidance, p. 16.

[78] **Specific provision for such testing "upon request" by the Illinois EPA is provided for by Condition 7.1.7-1(a)(vi).**

[79] **Comments on the USEPA's proposed MATS Rule Technical Corrections pointed out that at any given time, the load of EGUs may be restricted due to equipment failure or operating at less than maximum output because of commercial arrangements or transmission system restrictions or constraints, or be load-restricted by the Regional Independent System Operator. In response to these comments, USEPA observed that the MATS rule does not require EGUs to operate at maximum normal operating load during testing, but instead allows stack tests to be conducted at the load at which the EGU is capable of operating**

emissions testing required as part of the conditional approval of the CAM plan shows that the highest PM emission rate for the various operating conditions tested was 0.0712 lb/mmBtu, which is well within the applicable state PM limit of 0.1 lbs/mmBtu.[80]

Revised Condition 7.1.7-1(b)(i) also serves to address the load of the coal boilers during testing for CO emissions. This is because, unless measurements of CO emissions have been made during the Relative Accuracy Test Audit of the SO_2 or NOx continuous emission monitoring system (CEMS) preceding a test, testing for CO emissions is to be conducted in conjunction with PM testing (See Condition 7.1.7-1(a)(iv)(B) in the issued permit.)[81, 82]

7. Permit Condition: 7.1.9(h)(ii)(D)

Comment:

The Draft Permit would not require adequate recordkeeping as it would not meet Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with permit limits. 40 CFR 70.6(a)(3)(i)(B) and (c)(1). This is because the recordkeeping required for possible PM exceedances would be vague and inadequate to assure compliance with PM limits. This must be corrected in the issued permit.

In particular, Draft Condition 7.1.9(h)(ii)(D) would require that records of possible exceedances of hourly PM limits must be created only "[i]f…the Permittee *believes* that compliance with the PM standard likely was not maintained." (emphasis added). This condition is vague, subjective, and unenforceable and thus falls short of Title V's requirements. As USEPA has explained,

> A permit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source [and] allow compliance to be verified. Providing the source with clear information goes beyond identifying the applicable requirement. It is also important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement.

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at the time of the test. This is because 40 CFR 63.10007(a)(2) specifies that EGU load for purposes of testing to demonstrate compliance "should be representative of site specific normal operations during each test run."

[80] **This emission testing addressed three configurations of the ESPs on the boilers. The highest PM emission rates during the testing for each of these configurations were 0.0712, 0.0420 and 0.0112 lb/mmBtu. The full results of this emission testing were summarized in Section 4.2 of Chapter 4 of the Statement of Basis for this proceeding.**

[81] **This condition provides that that intervals between CO testing can be twice those for PM testing if the measurements show that emissions are half the applicable state CO standard, 35 IAC 216.121.**

[82] **The operating rate or load of the coal boilers during emission testing for CO emissions does not present the same concerns that are present for testing of PM emissions. This is because add-on control devices are not used on the boilers for CO emissions whereas PM emissions are controlled with ESPs. As a general matter, the performance of ESPs is inversely affected by load, as higher flue gas flows and lower residence times act to lower control efficiency.**

USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999), at III-46; *see also In re Cash Creek Generation, LLC,* Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, *94-*96 (USEPA June 22, 2012) (granting petition to object on the grounds that Title V/PSD permit condition was too vague to be enforceable).

What the permittee "believes," or not, and the basis of that belief, is subjective and not readily ascertainable from any records that otherwise must be kept for the Powerton Plant. As such, this permit condition is subjective, vague, and therefore, unenforceable. It thus does not meet Title V's requirements and must be revised.

In revising this Condition, Illinois EPA should specify that certain objective criteria trigger the recordkeeping requirements under Condition 7.1.9(h)(ii)(D)(I) and (II). That objective criteria might include, for example, times when the opacity and other parameters of the CAM plan deviate from required levels or a certain number of fields of the Powerton ESP are out of service. A possible replacement here would be the following: "where the Permittee has any information that indicates that compliance with the PM standard was not maintained." Illinois EPA should also add recordkeeping requirements for those criteria to the Draft Permit.

Response:

The changes to the permit requested by this comment are not appropriate. In addition to the circumstances in which the subject records are required that are addressed by this comment, the subject records are required if emissions exceed an applicable hourly standard. As such, consistent with the cited USEPA guidance, Condition 7.1.9(h)(ii)(D) includes a clear and unambiguous criterion for when the source must keep the subject records that goes beyond the applicable requirement itself.

Moreover, this comment does not show that it is not appropriate for the permit to also require that the source keep the subject records for a malfunction or breakdown when it believes that compliance with an applicable hourly PM limit likely was not maintained during the incident. As already discussed, there may be circumstances for the coal boilers for PM emissions in which compliance with the state PM standard may not be able to be objectively determined. For those circumstances, as the obligation for recordkeeping directly applies to the source, the source must necessarily make the decision whether the particular records must be kept for an incident. However, the permit also requires that the source must continuously monitor the opacity of emissions from the boilers and keep certain other records for the operation of the ESPs on the boilers. The subject provision does not prevent the Illinois EPA or USEPA from conducting evaluations into the PM emissions during a malfunction or breakdown irrespective of whether the source believed that compliance with the PM standard was maintained during an incident. As such, the subject provision does not act to prevent appropriate enforcement for exceedances of the state PM emission standard.[83]

[83] **Whether the source kept the subject records for such an incident would be another matter to be addressed in any enforcement action. The nature of this recordkeeping requirement is clearly different from the requirement that the source conduct continuous**

This comment does not show that in place of requiring the subject records for incidents when compliance with the PM standard likely was not maintained, the permit should establish objective criteria for incidents when the Illinois EPA considers that compliance with the state PM standard likely would not be maintained and the subject records must be kept. While such criteria could be readily followed by the source, such criteria would not necessarily appropriately identify when there was a likely exceedance of the PM standard and the subject records should be kept. Such criteria might also be improperly construed as an official determination by the Illinois EPA for when a boiler should or should not be considered to comply with this standard. In summary, as related to the subject records, the permit appropriately places the obligation to identify likely exceedances of the PM standard on the source.

8. **Permit Condition: 7.1.10-2(b)(iii)(D)**

Comment:
The Draft Permit Does Not Provide Adequate Recordkeeping or Reporting Processes. The recordkeeping conditions of the Draft Permit do not meet the Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying permit limits. 40 CFR 70.6(a)(3)(i)(B), (c)(1). Furthermore, the Draft Permit contains insufficient reporting requirements. Reporting keeps Illinois EPA updated on any problems with the Powerton Plant, giving Illinois EPA and Midwest Generation the opportunity to resolve any issues. Furthermore, Midwest Generation must engage in adequate reporting to provide Illinois EPA and citizens with the information necessary to demonstrate compliance with the law. The Draft Permit should be revised to resolve the following issues.

The Draft Permit Should Be Modified to Ensure the Permittee Determines the Cause of Excess SO2 Emissions. Condition 7.1.10-2(b)(iii)(D) of the 2015 Permit and the Draft Permit changes Midwest Generation's obligations when reporting excess SO2 emissions. Under the 2005 permit, Midwest Generation was required to provide "a detailed explanation of the cause of the excess emissions." 2005 Permit at Condition 7.1.10-2(b)(iii)(D). Under the Draft Permit, in contrast, Midwest Generation must only submit a report that explains the cause of the excess emissions "if known." Draft Permit at Condition 7.1.10- 2(b)(iii)(D). The "if known" language gives Midwest Generation an incentive to avoid investigating the cause of excess SO2 emissions. If Midwest Generation does not understand the root cause of excess emissions, it cannot address that root cause to prevent the same problem from recurring, resulting in preventable SO2 emissions.

The Statement of Basis for the draft 2015 Permit explains that this revision to Condition 7.1.10-2(b)(iii)(D) was made to be consistent with the requirements for reporting causes of excess opacity in Condition 7.1.10-2(d)(iii)(A)(IV) of the permit. Statement of Basis for Draft 2015 Permit at 75. That Condition suffers from the same

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monitoring for opacity and keep certain operational records. Those requirements clearly apply at all times, addressing both compliant and noncompliant operation of the boilers.

flaw, and there is no reason why the Condition concerning SO2 need mirror the Condition concerning opacity. Simply put, it is illogical and inconsistent with the Clean Air Act to remove a requirement that a permittee seek out the causes of exceedances simply to keep language consistent.

The Draft Permit should be modified to ensure the permittee determines the cause of excess SO2 emissions.

Response:
This comment does not show that it is inappropriate for conditions of the CAAPP permit that require reporting of the cause of an exceedance to generally recognize that certain exceedances may occur for which the source may not be able to identify a cause or causes.[84] In this instance, the source must assess the cause of the incident and remains under the same reporting obligation as existed under the initial 2005 CAAPP permit, except that where circumstances do not reveal a cause of an incident, the source will depict the explanation as unknown. As the source must still report the occurrence of the exceedance itself, information is still reported that would enable the Illinois EPA or USEPA to evaluate such exceedance and determine whether it is reasonable that the source was unable to identify a cause or causes for the exceedance.[85]

9. Permit Condition: 7.1.10-2(g)

Comment:
Draft Condition 7.1.10-2(g) requires submittal of the quarterly electronic data report ("EDR") to the Illinois EPA upon submittal of the EDR to USEPA (emphasis added):

> g. Acid Rain Program Reporting
>
> Pursuant to Section 412 of the Clean Air Act and 40 CFR Parts 72 and 75, the source is subject to the reporting requirements of 40 CFR Part 75, which includes General Provisions; Notifications; Initial Certification or Recertification Application; Quarterly Reports; and Opacity Reports [See Condition 6.2.3]. Pursuant to Section 39.5(17)(m) of the Act, the designated representative of the source must concurrently submit to the Illinois EPA in the same electronic format specified by the USEPA, the data and information submitted to USEPA on a quarterly basis pursuant to 40 CFR 75.64.

The information submitted by the designated representative is publically available in a readable format at USEPA's CAMD website (https://ampd.epa.gov/ampd/). The electronic format required to be

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[84] It is noted that the change to the CAAPP permit addressed by this comment occurred by way of 2015 revision to the permit. This change was not a change that was proposed to be made as part of this reopening proceeding. Accordingly, this comment is beyond the scope of the current permit proceeding.

[85] Key factors in such an evaluation would likely be the magnitude, duration and frequency of the exceedances. It is reasonable to expect the cause or causes of exceedances that are large, continue for a period of time or are repeated could be identified. This is because more information would be available to consider the possible cause or causes of the incident.

submitted is generally unreadable -- reading the submitted files requires an XML file viewer at least, and for appropriate format viewing, USEPA's specific software. As such, the required submittal is both unusable and redundant.

Midwest Generation is requesting that Conditions 7.1.10-2 (a) and (g) be revised in one of the following ways:

Option 1: Remove the requirement to submit to the Illinois EPA in an electronic format as the submitted electronic format is both unreadable and redundant. Midwest Generation is requesting instead to add a requirement under condition 7.1.10-2(a), such that a certification of submittal of the quarterly EDR to the USEPA is required to be included with the routine quarterly report; or

Option 2: Under Condition 7.1.10-2(a), require that the electronic submittal be included with the required quarterly report. This would reduce the number of submittals and allow for easier tracking by both the Agency and Powerton.

Response:
The comment is correct that the electronic media that is submitted is not in a format that the Illinois EPA can use or read. Additionally, as confirmed by the Illinois EPA, this data is available in a useable and readable format on the USEPA CAMD website (https://ampd.epa.gov/ampd/). The website makes available this data in various forms from Quarterly to Hourly and from Stack level to Unit level. In this regard, to maintain the ability to obtain the data in the event that the Illinois EPA needs this data, the issued permit now requires that the data be submitted upon request in the same electronic format specified by the USEPA.

10. Permit Condition: 7.1.10-3(a)(ii)
Related Conditions: 7.1.9(h)(ii)

a. Comment:
The Draft Permit would not provide adequate reporting as it would not meet Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying permit limits. 40 CFR 70.6(a)(3)(i)(B), (c)(1). Reporting keeps the Illinois EPA updated on any problems at the Powerton Plant, giving the Illinois EPA and Midwest Generation the opportunity to resolve any issues. Furthermore, Midwest Generation must engage in adequate reporting to provide Illinois EPA and the public with the information necessary to demonstrate compliance.

In particular, the revised CAAPP permit should retain current reporting obligations for continued operation during malfunction or breakdown. Draft Condition 7.1.10-3(a)(ii) would weaken reporting requirements for the Plant during malfunction or breakdown. The 2005 Permit delineated several reporting requirements during these periods of time. The Draft Permit removes this list of reporting requirements and instead requires Midwest Generation to report solely the information required under Condition 7.1.9(h)(ii)(A), (B) and (D). One of the reporting requirements that Illinois EPA removed was reporting on cause. In contrast to the 2005 Permit, the Draft

Permit would not explicitly require Midwest Generation to report the cause of a malfunction or breakdown. As discussed above, limiting Midwest Generation's responsibility to determine the cause of problems creating excess emissions (which malfunctions and breakdowns often do) effectively leads to an increase in emissions that could be prevented if Midwest Generation investigated, and addressed, the root cause. The Draft Permit should accordingly be revised to explicitly require Midwest Generation to report the cause of a malfunction or breakdown.

Furthermore, former Condition 7.1.10-3(a)(ii) used to require reporting when the PM emission standard *may* have been exceeded during continued operation during malfunction or breakdown. However, Condition 7.1.10-3(a)(ii) of the Draft Permit only requires reporting if the PM standard *was* exceeded. Condition 7.1.10-3(a)(ii) of the Draft Permit should be revised to require Midwest Generation to report when the monitoring data indicate that the PM emission standard likely was exceeded (e.g., through operation of the opacity parallel), even where the plant does not yet have data confirming that exceedance. Such reporting would provide Illinois EPA with more information about operations during malfunctions or breakdowns and would hold Midwest Generation accountable for exceedances that may have occurred and would otherwise go unreported.

Response:

It is appropriate for Condition 7.1.10-3(a)(ii) to be revised as was generally proposed. The reports required by this condition should entail submittal of the information for the subject incidents for which the source must keep records pursuant to Condition 7.1.9(h)(ii). These reports should not be required to include information for which records are not required to be kept. However, Condition 7.1.10-3(a)(ii) of the 2005 permit inadvertently included a separate listing of the information that was required to be submitted and this listing did not match the listing of information for which records were required in Condition 7.1.9(h)(ii).

As observed by this comment, when making this correction to the reporting requirements in Condition 7.1.10-3(a)(ii), it is appropriate that the causes for exceedances still be addressed in the specified reports. This has been appropriately addressed in the issued permit. Condition 7.1.9(h)(ii)(D)(I)(2) requires that the records for a subject exceedance or incident include a detailed explanation for the probable cause of the incidents.

This comment does not show that Condition 7.1.10-3(a)(ii) should continue to specifically require the subject reports be submitted for incidents for which the source finds that compliance with the PM standard likely was not maintained. This condition implements reporting requirements under 35 IAC Part 201 Subpart I, Malfunction and Breakdown. The relevant provisions in 35 IAC 201.263 only mandate reporting for an exceedance of a state emission standard; not for likely exceedances. Accordingly, if the source desires any benefits that derive from 35 IAC Part 201 Subpart I for a likely exceedance of the PM standard, it must as a practical matter submit the specified report. However, the permit should not dictate submittal of such a report. To do so would potentially put in place

regulatory benefits for such an incident, such as they may be, that the source would not otherwise seek.

b. **Comments:**

The requirements in the draft permit for testing, inspection and evaluation, as well as the recordkeeping and reporting requirements, should be strengthened to ensure that Powerton reports and determines the cause of any excess emissions. People have a right to know so that the problems can be identified and accurately solved and do not continue over time. The CAAPP permit is supposed to contain all information so both the Illinois EPA and USEPA the public can easily determine if Powerton is in compliance with all applicable requirements.

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The draft CAAPP permit for Powerton would be deficient. I urge Illinois EPA to correct this deficiency in the final permit:

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Strengthen the draft permits inadequate testing, inspection and evaluation standards, as well as its inadequate record keeping and reporting requirements, to ensure that Powerton reports and determines the cause of any excess emissions.

Response:

As discussed in the response to the previous comment, Condition 7.1.9(h)(ii)(D)(I) in the issued permit requires that the records for a subject exceedance or incident include a detailed explanation for the probable cause of the incident.

11. **Permit Condition: 7.1.11-1(c)(ii)**
Related Conditions: 7.1.11-1 and 7.1.11-2

a. **Comment:**

The Draft Permit would not properly account for or limit excess emissions that could result from use of alternative fuels. The emissions that could result from the burning of alternative fuels under Condition 7.1.11-1 is a concern. First, the permit should explicitly clarify that alternative fuel "clean lumber" excludes both construction waste and any chemically-treated lumber, and the permit should expand the definition – and prohibition – of chemically-treated lumber to include numerous other chemicals used in treating lumber. Second, the permit must set emission limits for any HAPS that are not currently limited by the permit that may result from the burning of these alternative fuels. Finally, the permit should make clear that emissions must stay within permit limits and that the authorization to burn additional fuels is not an authorization to exceed permit limits when burning those fuels.

The permit needs to make clear that by allowing "clean lumber" it is not allowing construction waste or any chemically-treated lumber. First, as to construction waste, in the list of waste streams not allowed as alternative fuels in Condition 7.1.11-1(c)(2), construction waste should be delineated along with "municipal waste" and "hazardous waste." Allowing "clean lumber" without explicitly excluding construction waste runs the risk of allowing co-firing of construction waste. Second, as to chemically-treated lumber, Illinois EPA suggests that clean lumber does not include chemically-

treated lumber because the permit cites to the definition of "clean lumber" at 40 CFR 60.2265.[86] That definition of clean lumber is sorely lacking and does not exclude the whole range of chemicals that can be found in chemically-treated lumber. For instance, 40 CFR 60.2265 only excludes three forms of chemical treatments: "painted, pigment-stained, or pressure-treated." It is silent on types of treatment such as varnishing, sealing, pressing (as opposed to pressure-treating), and the engineering of wood composites, suggesting that lumber undergoing these types of treatments might be considered clean lumber despite being chemically-treated. 40 CFR 60.2265 also only includes three types of chemicals: "chromate copper arsenate, pentachlorophenol, and creosote." 40 CFR 60.2265 also omits mention of chemicals such as formaldehyde which is commonly found in lumber for indoor use, such as paneling and particle board, and polyurethane which is used as a sealant or varnish. Particle boards and paneling are manufactured by pressing, not pressure-treating, again suggesting that co-firing of paneling and particle board would be acceptable even though they contain formaldehyde which is itself a HAP. Consequently, the definition of clean lumber should be broadened beyond that contained in 40 CFR 60.2265, and other forms of chemical treatments and specific chemicals used in treated lumber should be delineated and excluded from the definition of clean lumber.

In addition, the permit must set emissions limits for the alternate fuels specific to pollutants that might be found in these fuels. For example, Tire Derived Fuel can include synthetic rubber tires. When burned, the byproducts from synthetic rubber tires would include highly toxic beryllium, lead, cadmium, selenium, silver, manganese and chromium VI. As discussed above, clean lumber, even under the 40 CFR 60.2265 definition, can still include products containing formaldehyde and polyurethane. Petroleum coke can have high SO_2 and NOx emissions, which, while controlled to some degree by DSI and SNCR, could still be higher than SO_2 and NOx emissions from burning coal. As a result, it is critical that the permit set emissions limits for the pollutants—especially HAPs—that could result from burning alternative fuels. This is most crucial in relation to the potential HAPS because the alternative fuels can emit HAPS that may not result from the burning of coal and therefore there may not currently be permit limits for those pollutants. For this reason, the permit should require the testing of alternate fuels before they are burned at the facility to make sure that the potential contents of the alternate fuels are consistent with those identified by the permit and for which emissions limits have been set. Finally, the permit should contain added notice requirements indicating that whenever the facility burns any alternative fuel, it needs to provide notice to Illinois EPA of the amount, content, and testing results.

To ensure that emission limits are followed, and to keep records of the impact of alternative fuels burning, Illinois EPA also should ensure that fuel use is reported publicly. I was unable to identify any examples of this in the permit, but to be clear, does the permit contain reporting requirements applying to the use of these

[86] Powerton Public Hearing Transcript (Nov. 15, 2016).

alternative fuels? If so, do those reporting requirements capture any impact alternative fuel use might have on plant emissions?

Response:

As an initial point, it should be observed that this comment and other comments related to the use of alternative fuels by Powerton address provisions of the current CAAPP permit that were not proposed to be changed in this reopening proceeding.[87] However, as these comments may arguably be considered to relate to other changes to this permit that were proposed as part of this proceeding, the Illinois EPA has considered these comments.[88] As a result of this consideration and not conceding this procedural point, in the revised permit that has now been issued for Powerton, various changes have been made to the provisions addressing use of alternative fuels in response to the comments that were submitted on these provisions.

In response to this comment as it argues for more specificity in the alternative fuels that the permit would allow to be burned with coal in the boilers, Condition 6.6.6(d) now includes the exact language from 40 CFR 63.10032 to more precisely identify the types of alternative fuels that may be burned under the operational flexibility provided by Conditions 7.1.11-1 and 7.1.11-2(a). Condition 7.1.11-2(a)(i) now specifically identifies the type of alternative fuels that can be burned as alternative fuels under the permit. These five alternative fuels are tire-derived fuel, clean lumber, petroleum coke, shredded polyethylene agricultural containers and seed corn. This condition also requires Powerton to provide written notification to the Illinois EPA prior to burning these fuels. Condition 7.1.11-2(a)(ii) further provides that this notification must contain a demonstration that the specific use of an alternative fuel in the boilers will not result in the boilers becoming regulated as "commercial and industrial solid waste incineration" (CISWI) units under 40 CFR 60 Subpart CCCC, with supporting documentation.

As this comment requests additional testing of emissions if alternative fuels are burned, the issued permit provides for such testing. In this regard, Draft Condition 7.1.7-1(a)(v)(B) would only have required such testing when the amount of alternative fuels burned in a calendar quarter was greater than 3 percent by weight of the total fuel burned. In the issued permit, the trigger for such additional emission testing would be the burning of any alternative fuel. As related to the standards for various pollutants under the

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[87] In Condition 7.1.11-1, the change that was proposed with the draft of the revised CAAPP permit is the removal of a provision that allowed for burning of wastes generated on-site (i.e., process wastes generated on-site, boiler chemical cleaning wastes and wood wastes), in the boilers. This is because this practice is no longer permissible in coal-fired boilers that are subject to the MATS rule.

In new Condition 7.1.11-2, provisions were proposed to be added addressing the use of refined coal in the boilers.

[88] It could be argued that these comments relate to the provisions of the MATS rule, 40 CFR 63 Subpart UUUUU, which apply to the coal boilers and are now addressed in the CAAPP permit pursuant to this reopening proceeding. It could also be argued that these comments relate to the reopening of the permit as it is based on the coal boilers not being subject to the New Source Performance Standards for Commercial and Industrial Solid Waste Incineration Units, 40 CFR 60 Subpart CCCC.

MATS rule, if Midwest Generation is demonstrating compliance with the MATS rule by periodic emission testing, additional testing is now required when burning alternative fuel.[89,90] This emissions testing with use of alternative fuels would be required to be conducted no later than the emission testing next required pursuant to the MATS rule. In conjunction with this testing, testing for CO emissions would also be required, which would serve to address compliance with 35 IAC 216.121.

As Conditions 7.1.11-1 and 7.1.11-2(a) address alternative operating scenarios and operational flexibility for the boilers, it would not be proper to make notice to the public a prerequisite to the use of this operational flexibility by the source, as requested by this comment. However, by virtue of recordkeeping required by 40 CFR 60 Subpart CCCC (now largely reflected in Condition 6.6.6(d) of the issued permit), and the requirement that supporting documentation be submitted with notifications accompanying most of the Permittee's decision-making related to the burning of alternative fuels (see Conditions 7.1.11-2(a)(ii) and 8.4.2(e), these records would be available upon request to the public if alternative fuel(s) are burned in the boilers.[91]

As this comment requests that the Illinois EPA establish limits in the revised CAAPP permit for emissions of HAPs potentially released from the boilers due to burning of alternative fuels, the Title V and CAAPP programs do not provide the authority to set such limits, especially as emissions of HAPs are subject to limits under the MATS rule. For the coal-boilers, the permit contains all emission standards that are currently required under the Clean Air Act and state law as "applicable requirements," including emission standards governing HAP emissions. As set forth in Condition 6.6 of the permit, the Powerton Station must comply with the requirements of the MATS rule. These requirements represent USEPA's judgment as to the appropriate standards for HAP emissions from coal-fired utility boilers, including boilers that burn a combination of coal and alternative fuels. The comment does not explain why further limits beyond those already in the permit should be considered appropriate for inclusion. Moreover, as already explained, Title V of the Clean Air Act does not provide authority for substantive emission standards to be developed and imposed during the processing of a CAAPP permit as requested by the comment. For this reason, the Illinois EPA has not imposed additional HAP emission limits that relate to the operating scenarios and operational flexibility addressed by Condition 7.1.11-1 and 7.1.11-2(a).

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[89] Midwest Generation currently demonstrates compliance with the standards of the MATS rule for mercury and non-mercury metals (particulate matter) by means of quarterly emission testing.

[90] The CAAPP permit does not need to provide for emissions testing for pollutants, such as mercury, for which Midwest Generation demonstrates compliance with the MATS rule by monitoring. That monitoring will provide data for the emissions from the use of a combination of coal and alternative fuel(s) by the boilers, as well from use of coal.

[91] In the event that Midwest Generation seeks to burn an alternative fuel at Powerton and wants to demonstrate the continued non-applicability of 40 CFR 60 Subpart CCCC through records under 40 CFR 60.2175(v), one option would be to seek a non-waste determination from USEPA pursuant to 40 CFR 241.3(c). Among other things, this procedural process requires that USEPA's decision-making be accompanied by notice and public comment. 40 CFR 241.3(c)(ii) and (iii).

Lastly, the comment claims that the CAAPP permit must be conditioned to require the source to refrain from violating its permitted limits, including during times when the source threatens to exceed permit limits when burning alternative fuels. However, these provisions are unnecessary as appropriate language is already included in the permit. The provisions of the CAAPP permit that address alternative operating scenarios and operational flexibility already provide that "This authorization does not affect the Permittee's obligation to continue to comply with all applicable requirements."[92] In addition, the CAAPP permit specifically provides that the Permittee must as a general matter comply with all the terms and conditions of the CAAPP permit (Condition 9.2.1 – Duty to Comply).

b. Comment:

The emissions that come or potentially could come from alternative fuels are a concern. The permit should make clear that emissions must stay within permit limits and the authorization to burn alternative fuels is not an authorization to exceed permit limits. Specifically, the permit identifies petroleum coke, clean lumber and tire derived fuel as potential alternative fuels. All of these fuels have different emissions profiles from coal and may emit pollutants, especially HAPs that are not limited by the permit.

Response:
As already discussed, because the coal boilers are subject to the MATS rule, the emissions of HAPs from burning of any alternative fuels would be addressed. The permit also clearly provides that the authorization to use alternative fuels does not excuse the source from compliance with any applicable requirements.

c. Comment:

The permit would provide that waste may not be used as an alternative fuel. However, the listed fuels can be read to include items that are frequently waste. For instance, tires can be potentially be viewed as waste and clean lumber can also be viewed as construction waste. So, I view the limitation on waste to be at odds with the actual alternative fuels listed. The permit should specifically say at a minimum no construction waste is allowed.

Response:
If a particular source or stream of a listed alternative fuel would be considered a waste, that material would not be an alternative fuel for purposes of this CAAPP permit. This is clearly stated by the permit as it broadly provides that waste may not be used as an alternative fuel. It would not be appropriate to further qualify this provision as requested by this comment. This would suggest that the permit itself addresses whether particular streams of material should be considered waste or alternative fuels.[93] However, any such

[92] See the introductory paragraphs in Conditions 7.1.11-1 and 7.1.11-2(a).
[93] **For example, if the permit were to indicate that construction waste is not clean lumber, it would imply that wood that is not construction waste is a fuel. However,**

determinations should be made for specific materials, considering the nature of a material that is proposed for use as an alternative fuel and its source or origin.

d. **Comment:**

Petroleum coke can have higher SO_2 and NOx emissions than coal. While SO_2 and NOx emissions are limited by the permit, I think the fact that they can be higher than coal creates a need for additional requirements when petroleum coke is being burned.

Response:
As the permit addresses SO_2 and NOx emissions from the boilers, the permit fully addresses any additional SO_2 or NOx emissions that would be associated with use of petroleum coke.[94] In this regard, changes in emissions if some petroleum coke were used, if any, would be addressed by the continuous SO_2 and NOx emissions monitoring systems. The emission standards and requirement for the SO_2 and NOx emissions of the boilers would be unchanged. The permit would not provide any allowance for additional emissions as some petroleum coke is being used with the coal.

e. **Comment:**

Particular listed alternative fuels pose very serious concerns for emissions of additional HAPs that should be addressed in the permit with additional requirements. With respect to clean lumber, there are chemicals that are used to treat lumber, including chromated copper arsenates (which can contain chromium, copper and arsenic), creosote and pentachlorophenol. All of these chemicals pose the risk of emissions of additional HAPs that would not be limited by the draft permit. So there is a concern that there could be emissions of HAPS and the permit would not limits those HAPs. Similarly, with respect to tire derived fuel, when tire derived fuel is burned, the byproducts can include toxics such as beryllium, lead, cadmium, selenium, silver, manganese and hexavalent chromium. These substances also would not be limited by the permit. The permit needs to have additional requirements to address all of these alternative fuels. In particular, the permit needs to set emission limits for the alternative fuels that are specific to the pollutants that are found in those fuels, especially the HAPS that can be emitted by those fuels. Then, the permit should require analysis of the composition of a sample of the alternative fuels before is it burned in the boilers.

Response:
If alternative fuels were used with coal, the emissions of various pollutants addressed in this comments would be addressed by

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whether a wood stream would qualify as clean lumber must be determined applying the definition of clean lumber at 40 CFR 63.2265.

[94] Petroleum coke is a byproduct of certain process units at petroleum refineries that thermally split or crack long chain hydrocarbons into more desirable shorter chains. Petroleum coke is commonly over 90 percent carbon, with lesser amounts of hydrogen, sulfur and ash. The design or type of coking unit coke producing the coke and the composition of the feed stream to the unit determine the type of coke that is produced and its composition.

requirements of the MATS rule. It must first be noted that the permit does not allow the use of treated lumber, including lumber treated with the wood preservatives addressed by this comment. The relevant definition of "clean lumber" at 40 CFR 63.2265 excludes pressure treated lumber by compounds such as the wood preservatives addressed in this comment.[95]

More generally, the pollutants addressed by this comment would be addressed by the MATS rule as it includes requirements addressing metal HAPs that are emitted as particulate. The only such metal listed in these comments that is not identified in the MATS rule is silver.[96] Any emissions of silver or other metal HAPs not specifically addressed by the MATS rule, if actually present with tires, would be controlled by the particulate matter control systems on the boilers along with other metals that are explicitly addressed by the MATS rule and be subject to the requirements for emissions of HAP metals or alternatively emissions of particulate matter.[97]

In any case, the potential presence of emissions of specific additional pollutants by itself is not sufficient to support the establishment of limits for those additional pollutants. This is because it is not implicit that all pollutants emitted by a source need to be individually regulated. For example, in its MATS rule, USEPA only addressed only one pollutant on an individual basis, mercury. Otherwise, USEPA addressed HAPs in categorical fashion, addressing pollutants emitted as particulate,[98] emissions of acid gases, and emissions of organic material. Moreover, this comment does not identify any legal authority supporting its claim that emissions of certain individual pollutants must be limited by the revised CAAPP permit. As previously explained, the purpose of a Title V or CAAPP permit, as it is an operating permit, is to facilitate compliance with established requirements for control of emissions. The purpose of a Title Vo or CAAPP permit is not to create new requirements for control of emissions. Setting of limits for emissions of the boilers for pollutants that are already addressed by the MATS rule would clearly be improper.

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[95] As defined by 40 CFR 63.2265,

> *Clean lumber* means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.

[96] The MATS rule addresses ten metals that are emitted as particulate matter, i.e., antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel and selenium. Hexavalent chromium is a specific chemical state of chromium and is addressed as chromium is addressed.

The MATS rule also addresses mercury, a HAP metal that may be emitted either as a gas or as particulate.

[97] As related to the organic pollutants associated with use of treated lumber identified in this comment, creosote is a non-chlorinated organic material and is addressed by the MATs rule as it addresses organic HAPs. Pentachlorophenol is a chlorinated organic compound and is addressed by the MATS rule as it addresses emissions of organic HAPs and hydrogen chloride.

[98] Under the MATS rule, for particulate HAPs, a source may comply with either: 1) separate limits for the emissions of ten HAP metals, 2) one limit for the combined emissions of these metals; or 3) a limit for emissions of particulate matter.

Requiring analyses of the composition of alternative fuels prior to their use, as requested by this comment, would not be appropriate as a way to address emissions attributable to use of these fuels. Such analyses would not provide information about the emissions of various pollutants attributable to the use of these fuel as the analyses would not account for the control of emissions of pollutants by the control equipment on the boilers or the destruction of pollutants that occurs with combustion. The issued permit appropriately addresses emissions associated with any use of alternative fuels by the boilers as emission testing would be required. This testing will not only serve to address compliance with the MATS rule, but also provide representative emission data for the actual levels of emissions of key pollutants from the boilers when a mix of coal and alternative fuel(s) is being burned.

f. **Comment:**

Because of the emissions of additional HAPs that could accompany use of alternative fuels, Powerton should be required to provide notice whenever it uses any alternative fuel. This notice should be provided to both the Illinois EPA and the public and include information on the composition of the alternative fuel, including the results of the required analysis of the fuel.

Response:
The potential presence of emissions of additional pollutants is not a sufficient basis to require the source to provide notice for use of alternative fuel as requested by this comment. The permit appropriately provides for notice to the Illinois EPA if the source utilizes the operational flexibility provided by the permit. However, the Title V and CAAPP programs do not provide for direct notice to the public by a source in such circumstances. To impose such a requirement would be extraordinary, especially as it would suggest that the use of alternative fuels is not something that is already provided for by the CAAPP permit.

g. **Comment:**

Because of the emissions of additional HAPs that could accompany use of alternative fuels, the permit should have additional reporting requirements that apply to the use of such fuels and the impact that those fuels will have on the source's emissions.

Response:
In response to this comment, an additional reporting requirement related to the use of alternative fuels has been included in the revised CAAPP permit. Condition 7.1.10-2(a)(i)(C) of the prior permit required that the in the required quarterly reports for the coal boilers, the source discuss changes to the fuel supply to the boilers, including changes related to use of alternative fuels. In the revised CAAPP permit, new Condition 7.1.10-2(a)(i)(C) now also requires information on the amount of fuels used in the boilers in each month during the reporting period. This will provide quantitative information that may assist the Illinois EPA in assessing the magnitude of any use of alternative fuels by Powerton and the possible implications for the Illinois EPA's oversight of activities at his source.

However, it is not appropriate for the CAAPP permit to require the source to include specific information in its periodic reports on the impact of the use of alternative fuels on emissions. It is not appropriate to target emission data for only certain modes of operation of the boilers. Such information also would not be relevant to of a Title V or CAAPP permit as its purpose or function is to facilitate compliance with established requirements.

h. **Comment:**

The startup and malfunction/breakdown authorizations for the boilers and the associated defenses under state rules should not apply for periods when the boilers are using alternative fuels. This is because there are additional pollutants that could be emitted if alternative fuels are being burned

Response:
It is not appropriate to make the change requested by this comment because it is based on a flawed assumption. It assumes that the emissions of the boilers when using some alternative fuel, as would be addressed by the permit, would be significantly higher than when only using coal. However, for purposes of the permit, including the state provisions of the permit that address startup and malfunction-breakdown, coal and coal with alternative fuel are both appropriately addressed as solid fuel.[99] If alternative fuel is used, the solid fuel burned in the boilers would still be predominantly coal.[100]

i. **Comment:**

It is outrageous that the permit allows this coal-burning plant to bring in alternative fuels, such as used tire materials or petroleum coke, probably from the south side of Chicago, and not require any special monitoring. When I look at the draft permit, it lays out only ten HAPs that are considered. I could not see anything that would expand this if alternative fuels are also burned. Yet the permit would require the source to report when it is using alternative fuels that contain, for example, chlorine or fluorine, those are specifically called out in the instructions and yet the permit makes no attempt to, on the other end, to monitor for those. That seems to be a real oversight.

Response:

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[99] **This comment also incorrectly assumes that if alternative fuel were being used by the boilers, the plant would have the ability to alternate or switch the fuel supply for the boilers between coal and coal with alternative fuel. This is not the case. In addition, for stable operation of the boilers and their emission control systems, it is preferable that the boilers be operated on single supply of solid fuel. The solid fuel supply should not be switched between two different supplies and changes to the composition of this supply should occur gradually. As such, it would also be inappropriate to include the restriction that is requested by this comment as it would require the boilers to switch between coal and coal with alternative fuels if alternative fuel was being used.**
[100] **It may also be noteworthy that the applicable requirements of the MATS rule that address startups are not affected by whether a subject unit is burning coal or coal with alternative fuel. Under the MATS rule, a source must either: 1) Begin startups of a unit with a clean fuel such as natural gas or distillate oil, or 2) Account for emissions during startup when determining compliance with the applicable limits.**

As discussed, the "standard provisions" of the permit that apply to use of coal by the boilers are also generally sufficient to address use of coal with some alternative fuel(s). The previous CAAPP permit for Powerton included certain "additional provisions" to address use of alternative fuels, including requirements for notice to the Illinois EPA, emissions testing, recordkeeping and reporting. In response, to comments, these provisions have now been appropriately strengthened and enhanced in the revised CAAPP permit.

j. **Comment:**

I am extremely concerned about the cavalier way that the permit allows equivalency in the use of alternative fuels. The permit says that the source needs to keep records for each load of alternative fuels that is received, with date, supplier name, type of fuel and amount, and yet when one get to what the source actually has to report, what it has to do, if it has burned an alternative fuel before in a bigger quantity, that is okay, it does not have to do anything at all. Here in Peoria where Caterpillar equipment is made, people know that a tire is not a tire, there is a great deal of variability between types of tires. Similarly, petroleum coke is a byproduct. To lump those together and provide that Powerton can burn those up to 3.0 percent, just does not show good faith. I think that the Illinois EPA needs to develop clear requirements for what the source is supposed to be doing for each type of alternative fuel. These requirements also need to deal with every combination of alternative fuels, for example, 2.0 percent petroleum coke and one percent clean lumber or whatever the case may be. This needs to be addressed because the combination of these fuels could create all kinds of crazy stuff.

Response:
The purpose of the recordkeeping addressed by this comment would be to track the actual usage of alternative fuel(s) by the source. Because alternative fuels would be mixed into the coal supply for the coal boilers, recordkeeping for usage these materials would be most readily accomplished with records for the receipt of these materials at the source.

Additional monitoring or other additional compliance provisions beyond those in the issued permit are not necessary. The nature of the specified alternative fuels is such that the variability in the composition of those fuels should not pose particular concerns as related to emissions. In this regard, the comparison in this comment to the variation in the types of tires used by Caterpillar equipment is not appropriate. While those tires may vary in size, geometry and tread pattern, those aspects of the tires would not be relevant if those tires were to become tire derived fuel. The aspect of tires that is relevant is to their use of tire derived fuel is the composition of the tires and the form of the tire derived fuel, e.g., the size of the shredded pieces of tires, as this could affect how quickly the material burns in the boilers. The composition of the rubber in tires should not be expected to vary to such a degree that emissions would be affected. The form of the tire derived fuel used by the source would be addressed by the required records for the individual loads of alternative fuels as received at the source.

Similarly, the differences between the various alternative fuels would not be such that the permit needs to take a more refined approach to the use of these materials. The overall usage of these materials is limited to no more than 10 percent of the fuel supply to the coal boilers. The emissions profiles of the boilers would still be consistent with their profiles as coal-fired boilers. Interactions between alternative fuels or between coal and alternative fuels should not be expected that would create to created new types of pollutants that would not otherwise be present if only coal were burned.

k. Comment:

I am very concerned about the use of alternative fuels, especially petroleum coke. Powerton is on the Illinois River and the channel goes right by the plant. There are major lakes nearby. Is the storage of alternative materials within the purview of or covered by the Illinois EPA?

Response:
As related to both emissions and water runoff, the storage and handling of alternative fuels at Powerton would be within the purview of the Illinois EPA.

l. **Comment:**

As a resident of this area, as a person who tries to jog and be healthy and utilize the river, I do not think any of these alternative fuels should be allowed for Powerton. They would need to be stored at the source. Then they would be burned, with huge additional concern for health impacts.

Response:
It is appropriate that the permit provide Powerton with operational flexibility to use alternative fuels in the coal boilers. These boilers have the capability to use a mix of coal supplemented with other solid fuels. The source has also the capability to mix alternative fuels with the coal supply to the boilers. The use of alternative fuels as provided for by the permit is permissible under the MATS rule. It would not change the fundamental nature of the plant or its emissions as a coal power plant. The storage and handling of alternative fuels must be appropriately managed to control emissions of particulate matter and comply with applicable emission standards, just like the storage and handling of coal.

12. Permit Condition: 7.1.11-2(b)

a. Comment:

I am very concerned about the lack of specificity with coal refining. I know that it can be anything from putting a variety of additives into coal to washing the coal with water, acids and other materials. Pollution is a zero sum game. All the contaminants in that fuel are not going anywhere. If they're not going up in the air, they are going to be left in the coal ash or they are going to be left in the ash water. I realize that this is a clean air permit, and that it is out of purview of the Illinois EPA, Air Permit

Section. But I think it would give good assurance to the public if the Illinois EPA could at least identify a mechanism by which the Bureau of Air is going to correlate when Powerton starts doing coal refining with the Illinois EPA's Bureaus of Water and Land. Because otherwise the problem is just being transferred around. It is just a shell game because the pollution is not going anywhere.

Response:
Use of refined coal should not be characterized as a "zero sum" game as suggested by this comment. There would be a clear environmental benefit from use of refined coal as it acts to reduce the emissions of the coal boilers. Some of the emissions of mercury and SO_2 that would otherwise be emitted and dispersed into the atmosphere and the ambient environment will be transferred into the coal combustion waste from these boilers. This waste must already be appropriately managed to prevent the release of the contaminants in the waste into the ambient environment. As related to emissions of NOx, the purpose of refined coal is to reduce the amount of NOx that is formed in the boilers by the combustion process. As such, the use of refined coal would act as a pollution prevention technology. The use of refined coal would not transfer NOx into the coal combustion waste from the boilers.

b. Comment:

I do not have very much confidence in the refined coal process because no one has identified the chemicals being used in the process, the solids being mixed in with the coal or the types of wash procedures that are used. I do not know that there will be adequate monitors, I do not think that there is even an attempt to do monitoring on the coal refining. That is going to be our problem in the coming years when refined coal gets implemented.

Response:
The refined coal that would be used in the coal boilers would be made by introducing additives into the coal before it is fed to the boilers. These additives would be proprietary dry and liquid fuel additives such as S-Sorb and MerSorb. Information on the composition of these additives is provided on the Material Safety Data Sheets (MSDS) for the materials developed by the supplier. As described in the MSDS, S-Sorb is a mineral composite primarily made up of calcium silicate components and other calcium compounds. MerSorb is an aqueous solution of calcium bromide. As the emissions of mercury, SO_2 and NOx of the boilers are monitored, additional emissions monitoring is not needed for the use of refined coal. As the additives used in making refined coal would become a component of the ash from the boilers, a new waste stream is not created.

13. Permit Condition: 7.1.12(a)(ii)(E)

Comment:
The Draft Permit would not provide adequate reporting meeting the Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying limits. 40 CFR 70.6(a)(3)(i)(B) and (c)(1). Reporting is important to keep the Illinois EPA and the public updated on any problems at the Powerton Plant and enable resolution of those problems.

In particular, in the issued permit, the Illinois EPA should strengthen reporting criteria during opacity exceedances under 35 IAC 212.123(b). The Draft Permit lacks the requirement contained in Condition 7.1.12(a)(ii)(E) of the 2005 Permit for Powerton that the source provide Illinois EPA with notice at least 15 days before changing its recordkeeping and data handling procedures associated with its reliance on 35 IAC 212.123(b). This change originally occurred when Illinois EPA issued the 2015 Permit, but the Statement of Basis states that this change in part occurred because "it was recognized that the specific aspect of the source's procedures that is of interest to the Illinois EPA is the type of short-term opacity data that is collected." Statement of Basis for Draft 2015 Permit, at 32. This is problematic. While it is good that Condition 7.1.12(a)(ii)(E) requires Midwest Generation to notify Illinois EPA of changes to the type of short term opacity data that is collected, if the recordkeeping and data handling practices associated with 35 IAC 212.123(b) are improperly executed, then the data that is of interest to Illinois EPA can be incorrect. In order to determine whether or not the SIP has been satisfied, the permit should require the Illinois EPA to be notified of new recordkeeping and data handling practices. This notification should happen before changes in practices occur to avoid any interference with proper procedures.

Response:

Upon further consideration, the Illinois EPA concluded that advance notice by the source, as would have been required for certain changes to its procedures by Condition 7.1.12(a)(ii)(E) in the initial permit, is not warranted. The key purpose of this condition was to ensure that the source was keeping appropriate short-term opacity for the boilers as is needed to implement 35 IAC 212.123(b). However, Condition 7.1.12(a)(ii)(A) clearly lays out the types of short-term opacity data that the source must record as it elects to rely on 35 IAC 212.123(b), i.e., either a continuous chart recording measured opacity, a record of discrete measurements of opacity taken no more than 15 seconds apart, or a record of 1-minute average opacity data.

Moreover, it is unlikely that the Illinois EPA would be able to complete any review of a planned change within the 15 day period that would have been provided by the initial CAAPP permit. 35 IAC 212.123(b), which is part of the Illinois SIP, does not provide that a source must obtain approval from the Illinois EPA prior to reliance on this alternative to the generally applicable opacity standard in 35 IAC 212.123(a).

Finally, the initial condition could potentially have been misinterpreted to extend to any change in procedures by the source, including changes in the personnel that reviewed opacity data or the scheduling of this review.

14. Permit Condition: 7.1.12(b)

Comment:

The summary of compliance procedures in Condition 7.1.12(b) regarding the applicable PM limits should be revised to include only

the portions of the records required by Condition 7.1.9 that are directly related to compliance with the PM limits.

Condition 7.1.12(b) establishes that compliance with the PM limits in Conditions 7.1.4(b) is determined through "continuous opacity monitoring in accordance with Condition 7.1.8(a), PM testing in accordance with Condition 7.1.7, and the recordkeeping required by Condition 7.1.9." Condition 7.1.9 contains all recordkeeping requirements for the boilers, associated controls, and associated monitoring equipment for all pollutants. Condition 7.1.12(b) should be revised to include only the portions of Condition 7.1.9 that are directly related to compliance with the PM limits.

Response:
As now delineated in the issued permit, the specific records that would be relevant to determining compliance with the PM limit are the records required by Conditions 7.1.9(a)(i) through (iv), (b)(i) and (ii), (c), and (f) through (h). In the issued permit, these records are qualified with the word "relevant" to make clear different combinations of the information in these records could be relevant for the determination of compliance.

15. Permit Condition: 7.1.13

Introduction:
The proposed Compliance Assurance Monitoring (CAM) plan does not provide sufficient monitoring to assure proper operation and maintenance of the ESPs, and must be revised. Specifically, the plan must include: 1) a requirement for an indicator range that will demonstrate proper operation and maintenance of the Plant's ESPs; 2) monitoring of additional parameter(s) relating to the Plant's ESPs; and 3) practically enforceable responsive actions to excursions from the indicator range.

Comment 1a:
The proposed CAM plan should identify and include parametric monitoring ranges for electrostatic precipitator (ESP) parameters to provide a reasonable assurance of ongoing compliance with the applicable PM emission limitations. The four coal boilers are subject to, among other things, the monitoring requirements of the CAM plan described in Condition 7.1.13-2 and Table 7.1.13a. The Permittee is required to control PM emissions from the boilers through use of ESPs. Additionally, as part of the recordkeeping requirements for the ESPs, Conditions 7.1.9(b)(ii) and 7.1.12(b) require the Permittee to record: the status of each ESP field at least once per shift; and primary voltages and currents, secondary voltages and currents, and sparking rates at least once per day.

Among other requirements, the CAM rule requires that subject sources establish appropriate indicator ranges for one or more indicators of emission control performance for the control device and any associated capture system. *See* 40 CFR 64.3(a). The selected indicators and indicator ranges must provide a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions.

The draft permit's CAM plan relies on a single indicator: a continuous opacity monitoring system (COMS) as a surrogate for monitoring PM emissions from the boilers. As part of the analysis in selecting the CAM plan indicator range, the Permittee provided Illinois EPA with testing results to demonstrate a correlation between the opacity and PM emissions, consistent with EPA CAM plan guidance recommendations. The data that was presented as part of the record for Powerton suggest that there is only a small margin of compliance with PM emissions at the opacity indicator range selected for the CAM plan. We acknowledge that the correlation of opacity and PM emissions is not necessarily precise. Nonetheless, because of this small margin of compliance, selection of opacity as the sole CAM plan indicator fails to provide a reasonable assurance of ongoing compliance, as required by the CAM regulations.

While opacity from a boiler stack is one good indicator of boiler operation and combustion efficiency, proper operation and maintenance of the ESP, which is the primary control device, is essential to assuring compliance with the applicable PM limits. Additionally, as discussed above, the purpose of the CAM regulations is to design monitoring criteria to obtain data of emission control performance for the control device to provide a reasonable assurance of compliance. *See* 40 CFR 64.3(a)(1). Therefore, in addition to COMS, ESP parameters should be used as an indicator of compliance in the CAM plan or elsewhere in the permit.[101] As noted above, the Permittee is required to keep records of certain ESP parameters. However, the CAM plan does not establish any ESP parameters as indicators of compliance, and it does not establish ranges for those parameters that indicate proper operation of the ESP.

As USEPA has previously explained, if ESP parametric monitoring is to be used as a surrogate to assure compliance with PM emission limits, the permit must contain specific operational limits (upper level or lower level) and/or operational ranges, or a method for determining the ranges. *See In the Matter Of Midwest Generation, LCC Waukegan Generating Station*, Petition Number V-2004-5 (Order on Petition), September 22, 2005, at 20-21. *See also,* "Proposed Compliance Assurance Monitoring (CAM) Protocol for an Electrostatic Precipitator (ESP) Controlling Particulate Matter (PM) Emissions from a Coal-Fired Boiler," available at https://www3.epa.govittnemc01/cam/espcam.pdf.[102] Additionally, monitoring of ESP parameters to ensure that they are within acceptable ranges would demonstrate that the source is in continuous compliance with the opacity and PM limits whenever the COMS experiences a downtime due to calibration, maintenance or other

[101] *See* EPA sample CAM protocol for an ESP controlling a coal-fired boiler, available at: https://www3.epa.gov.ittnemc011carniespcam.pdf
This sample protocol explains that while neither opacity nor ESP parameters are individually perfect indicators of compliance, the use of both opacity and ESP parametric monitoring provides a reasonable assurance of compliance with PM emissions limits. The ESP parameters (e.g., voltage and current for each field) and other ESP-specific "fitting factors" (e.g., velocity standard deviation, sneakage fraction, and rapping re-entrainment fraction) are used to calibrate an ESP computer model and opacity is used to initiate the model.

[102] Although the CAM Protocol does not mandate that certain indicators be used, it does provide that COMS and ESP parametric monitoring are sufficient to meet CAM requirements for PM. Any modifications to the Protocol must include a rationale for the modification.

reasons. The CAM protocol mentioned above explains that any deviation from the protocol should include a rationale that explains how a different configuration from the protocol (use of COMS and ESP parametric monitoring) is adequate in meeting CAM requirements. This rationale must be approved by the permitting authority and included in the permit record at the time of public noticing the permit.

To address the above issues, the permit must identify the key ESP operating parameters as indicators of performance, and establish appropriate ranges for those parameters, such that operation within the ranges provides a reasonable assurance of ongoing compliance with the PM emission limits, consistent with 40 CFR 64.3. The key operating parameters may be those already included in Conditions 7.1.9(b)(ii) and the parametric levels or ranges may be those established through emission tests or those listed by the control equipment manufacturer as the settings for optimum operation. lf the CAM Plan does not rely on ESP parametric monitoring, the permit record must contain an adequate rationale for the modification from EPA's CAM Protocol.

Response:
Comments 1a and 1b overlap and have a similar response. The response to this comment has been included with the Response to Comment 1b below.

Comment 1b:
Illinois EPA also should revise the CAM plan to include monitoring of other parameters of ESP performance in addition to opacity. Specifically, pursuant to USEPA guidance, the CAM plan should include monitoring of voltage and current for each ESP field. Furthermore, since the opacity/PM correlation can vary in some operating conditions, USEPA's monitoring protocol for CAM plans at coal plants provides for monitoring of parameters in addition to opacity as a failsafe measure. Ex. D, ESP CAM Protocol at 3. at 14. USEPA's "presumptively acceptable" approach, *see* 40 CFR 64.4(b)(5), provides that the source also should monitor not only opacity but also other ESP operating parameters, specifically, voltage and current for each ESP field, and run a calibrated computer model to calculate ESP efficiency when the opacity excursion level is triggered. Ex. D, ESP CAM Protocol at 4. *See also* USEPA, *CAM Technical Guidance Document*, App. A.25, *Electrostatic Precipitator (ESP) For PM Control—Facility FF* (June 2002), at A.25-2 (model CAM plan providing that "ESP secondary voltage and current are measured for each field to determine the total power to each ESP").[103] In order to assure proper operation and maintenance of Powerton's ESPs, Illinois EPA should also require parametric monitoring of voltage and current for each ESP field.

Response:
The principal purpose of the recordkeeping that is required by Condition 7.1.9(b)(ii) for the operating parameters of the ESPs is to have certain relevant information available if an excursion is

[103] Available at http://cfpub.epa.gov/oarweb/mkb/cam.cfm.

identified by the CAM Plan.[104, 105] As observed by this comment, the required records for the operating parameters of the ESPs would not serve to address compliance with the PM limits. Under the permit, compliance with PM limits is addressed by means of CAM plans that use opacity as the indicator parameter and not operating parameters of the ESPs. As such, the operation and maintenance of the ESPs is appropriately addressed in the permit. It is not necessary for a correlation to be established between the operating parameters of the ESPs and the PM emissions of the boilers. The CAAPP permit also does not need to specify acceptable ranges for ESP operating parameters.[106] As already discussed, USEPA has determined that Periodic Monitoring that meets the requirements of 40 CFR 70.6(a)(3)(i)(B) is sufficient to satisfy the requirements of 40 CFR 70.6(c)(1) (i.e., will be sufficient to assure compliance with subject permit terms and conditions).

The existence of the USEPA ESP CAM Protocol does not provide an adequate basis to conclude that the CAM plans submitted by the source for the coal boilers at Powerton are deficient and to require CAM plans that address operating parameter of the ESPs, as requested by this comment. Under 40 CFR Part 64, a CAM plan must be designed to provide a "reasonable assurance" of compliance with as applicable emission limit.[107] The fact that the source could have been developed CAM plans that followed the approach contemplated by the USEPA ESP CAM Protocol does not show that the CAM plans that the source actually did develop, as addressed by the issued permit, do not provide a reasonable assurance of compliance.

Moreover, as discussed in this comment, the USEPA ESP CAM Protocol involves opacity, the operating parameters of an ESP and the efficiency or performance of an ESP. Opacity is used as a "screening" parameter and is used to define periods of elevated opacity when a specific evaluation of the performance of the ESP is needed based on the operating parameters of the ESP during such periods. For the purpose of this evaluation, the USEPA ESP CAM

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[104] The records that are required would enable the Illinois EPA or USEPA to determine whether particular operating parameter(s) of the ESP during an excursion were meaningfully different from those for normal operation of the ESP.

[105] As a more general manner, when as a matter of good practice, a source would keep records related to the operation of an air pollution control device, it is appropriate that a CAAPP permit require the source to keep such records. Such information may serve to confirm the consistent operation of the control device by the source and timely action by the source in response to changes in the operating parameters of the control device.

[106] As is evident from USEPA's *Compliance Assurance Monitoring (CAM) Protocol For An Electrostatic Precipitator (ESP) Controlling Particulate Matter (PM) Emissions from a Coal-Fired Boiler*, Proposed (USEPA ESP CAM Protocol), establishing a correlation between the operating parameters of an ESP and the PM emissions of a coal-fired boiler is not a simple matter. In this guidance, USEPA suggested that monitored opacity of a coal-boiler should be used as a "screening technique" in the CAM plan. If the monitored level of opacity exceeds the screening value, an assessment of compliance for PM emissions should then be conducted using the operating parameters of the ESP during the event and a computer model. This guidance did not suggest that CAM plans should establish indicator ranges for the operating parameters of ESPs on coal boilers.

[107] A CAM plan is not intended to provide enhanced monitoring such that there is a direct determination or measure of compliance with an applicable limitation. Indeed, if a source uses a "continuous compliance determination method" to determine whether an emission unit complies with a limitation, 40 CFR 64.2(b)(vi) provides that a CAM plan is not needed to address such limitation.

Protocol relies on the development and calibration of a computer model for the performance of the ESP. This model would then be used to determine ESP performance from the operating parameters of the ESP. As such, the USEPA ESP CAM Protocol does not rely directly on the operating parameters of an ESP but on the performance of an ESP as calculated using a computer model.[108] The source used a much simpler and more direct approach in its CAM plans for the coal boilers at Powerton, using opacity as the indicator parameter. For the source, this approach avoids having to develop and calibrate computer models for the ESPs on the two boilers. This is simpler for the Illinois EPA because there is not a delay while the model is being run to determine whether there was an excursion during a period of elevated opacity. It is also simpler because the Illinois EPA does not have to verify the design and calibration of the computer models or evaluate the modelling that is conducted by the source for periods of elevated opacity.

The comment also claims that in the USEPA ESP CAM Protocol, USEPA indicates that opacity alone is not a good indicator of proper operation of an ESP. This is patently untrue as the protocol uses opacity as a screening indicator. While as a general matter, opacity may not indicate the magnitude of mass emissions relative to any one opacity value, this does not mean that opacity cannot be used as the operating parameter in the CAM plan for a particular emission unit. In this regard, this protocol states that "…for any <u>given</u> ESP and boiler, opacity can serve as a very useful indicator to initiate additional action…" (USEPA ESP CAM Protocol, p. 3, emphasis added).

As a final point, it is noteworthy that the USEPA ESP CAM Protocol, which was only proposed by USEPA and never finalized, states that:

Use of this protocol is not required; you as source owners and operators may propose other PM monitoring approaches for ESP's controlling coal-fired boilers. <u>Presumptively acceptable monitoring is not prescriptive.</u>
USEPA ESP CAM Protocol, p. 2 (emphasis added)

<u>Comment 2:</u>
Condition 7.1.13-2(c)(ii)(A) of the CAM plan sets out the actions that Midwest Generation is to take in response to excursions of indicator ranges. Essentially, the Condition requires Midwest Generation to "restore operation of the [Boilers] (including the control device and associated capture system) to [their] normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions." Draft Permit at Condition 7.1.13- 2(c)(ii)(A). This standard does not provide enough detail to assure prompt correction of improper operation, and should be revised to include a site-specific description of required responsive actions. It also is subjective and vague, making it difficult to enforce as a practical matter. USEPA Region 9 Title V Permit Review Guidelines (Sept. 9,

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[108] The example CAM plan in the USEPA ESP CAM Protocol provides that "When the hourly opacity is outside the indicator range, there is no reporting or corrective action requirement relative to the PM limit, but the operator must run the EPRI ESPM computer model." USEPA ESP CAM Protocol, p. 13.

1999); *In re Cash Creek Generation, LLC,* Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, *94-*96 (USEPA Jun. 22, 2012).

The CAM plan for the Powerton Plant should include more detailed and enforceable requirements for responsive action. For opacity levels that threaten non-compliance with the PM emission limit, the facility should be required to shutdown the affected Boiler, or at least immediately reduce operation of the boiler within 30 minutes to ensure a return to compliance with the applicable standard. Additionally, the Permit should include a site-specific description of necessary responsive actions for more minor excursions (without unduly hampering the plant's flexibility to tailor a response to the specific excursion). Such requirements would be enforceable as a practical matter as compared to the subjective and vague language regarding returning Boilers to their normal manner of operation "as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions."

Response:
This comment does not justify any changes to draft Condition 7.1.13(c)(ii)(A). This condition simply reiterates the relevant language in 40 CFR 64.7(d)(1), which addresses how a source must respond to excursions or exceedances identified pursuant to its CAM monitoring.[109] As such, it is fully appropriate that this condition be included in the issued permit in the form in which it was set out in the draft permit without any changes. Moreover, when an exceedance or excursion is identified, the CAM Plan approved by the permitting authority should not predetermine the source's response based on the magnitude of the occurrence. As confirmed by 40 CFR 64.7(d)(2), the adequacy of a source's response to an exceedance or excursion is to be evaluated by a regulatory authority on a case-by-case basis.[110]

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[109] **40 CFR 64.7(d) provides:**

> **(d) Response to excursions or exceedances. (1) Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.**
> **(2) Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.**

[110] **In practice, the Illinois EPA would expect that if the cause of an excursion is not readily apparent, an important aspect of such an investigation would be an examination of the operating parameters of the ESP, for which the permit requires monitoring be conducted, comparing the values of those parameters during the incident, the values of parameters leading up to the incident, and the typical values of parameters.**

Comment 3a:
Although the CAM plan in Table 7.1.13a of the draft permit would provides for continuous monitoring every six minutes through operation of the COMS, it undermines the effect of this monitoring by allowing the plant operator only to report opacity measurements that exceed the permissible 30 percent limit over a three-hour averaging period. This is improper because it potentially fails to capture hundreds or even thousands of actual exceedance events, which can have significant health impacts on the nearby community. It also is inconsistent with CAM requirements: the CAM rule provides that a CAM monitoring program must "[a]llow for reporting of exceedances (or excursions if applicable to a COMS used to assure compliance with a particulate matter standard), consistent with any period for reporting of exceedances in an underlying requirement." 40 CFR 64.3(d)(3)(i). In this case, the Illinois SIP provides that the applicable averaging period in the underlying PM emission limit is hourly. 35 IAC 212.202. Therefore, at the very least, the CAM plan must require reporting of opacity excursions on an hourly basis. It would be most helpful to see each individual reading so that the public has the information it needs to understand the levels of pollution emanating from the plant, but at the very least, measuring opacity over a three-hour averaging period cannot assure compliance with an hourly standard.

Response:
In response to this comment, the CAM plans that are now fully approved by the issued permit use a rolling three-hour period.[111] The permit does require reporting of opacity excursions on an hourly basis. This is because a separate determination is made for each hour, based on the average of opacity for that hour and the two preceding hours.[112]

The aspect of the PM emission standards that supports use of three-hour periods in the CAM plans is that, notwithstanding the language of 35 IAC 212.203, emission testing to determine compliance with

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[111] Running averages and block averages are different methods for calculating average values from a segment of the data collected for a particular parameter. Block averages are calculated from separate, non-overlapping segments of data. For example, block daily averages could be calculated using the data from midnight to midnight in each calendar day, with a single average value calculated for each day. Running averages, also known as a rolling or moving averages, are calculated for "overlapping" segments of data, with the segment being shifted forward incrementally for each calculation. For example, daily averages, rolled hourly, would be calculated for the periods from 1:00 am of the previous day to 1:00 am of the day, from 2:00 am of the previous day to 2:00 am of the day, from 3:00 am of the previous day to 3:00 am of the day, etc. As the daily averages are rolled hourly, 24 hour separate values would be calculated for each operating day, with a different calculation made for each hour.

[112] Even though the CAM plans use a three-hour period, an excursion could theoretically occur and corrective actions be triggered by the hour in which the hourly opacity exceeds 30 percent. In a situation involving a sudden problem with an ESP, the three-hour average opacity could easily exceed 30 percent for the hour in which the problem occurs. (For example, if the opacity in the previous two hours was 26% and 24%, opacity of 43% in the hour in which the problem occurs would result in a three-hour average opacity of 31%.) Similarly, in a scenario involving a gradual problem with an ESP, the three-hour average opacity could exceed 30 percent for the hour in which the opacity exceeds 30 percent. (For example, if the opacity in the previous two hours was 28% and 30%, opacity of 35% in an hour would result in a three-hour average opacity of 31%.)

these standards involves three separate test runs, each nominally one-hour in duration. As provided by 35 IAC 212.110 and 283.210, compliance is evaluated based on the average of the measurements in the individual test runs compared to the applicable standard. In other words, testing to determine compliance with the PM standards involves a three-hour averaging period. As a general matter, the use of three separate test runs is considered necessary to assure a credible measurement of emissions that is appropriately relied upon to assess compliance or to quantify emissions.[113] It follows that opacity should also be evaluated as a three-hour average, consistent with the time period over which testing for PM emissions is conducted.

The PM testing that was conducted pursuant to the conditional approval of the CAM plans further confirms that use of a three-hour average of opacity is appropriate in the CAM plans. This is because the individual hourly values for opacity for the test runs with higher PM emissions varied significantly.[114] For example, for the three test runs with higher opacity, the average opacity value in the test runs was 25.48, 24.12 and 18.63 percent and the measured PM emission rate for these test runs was 0.0561, 0.0712, and 0.0549 lb/mmBtu, respectively. Therefore, it is appropriate to link to the average opacities of the test runs of 22.74 percent to the average PM emission rate of 0.0607 lb/mmBtu.

A review of the CAM rule, 40 CFR Part 64, does not show that the time period used in a CAM plan must match the period that is implied by the language of the applicable emission standard. Rather, this period should be consistent with the time period in which a change in the operating parameter that would indicate an excursion would be observed.[115] As applied to the coal boilers at Powerton, this accommodates use of a three hour period in the CAM plans. As discussed, the PM testing that was conducted pursuant to the conditional approval of the CAM plans shows the individual hourly values for opacity for the test runs with higher emissions varied

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[113] The use of multiple test runs, with independent measurements of emissions, protects against the basic uncertainty that would be present with USEPA methods for testing PM emissions if only a single test run were required. The results of a single run could be "off," either high or low, based on errors in carrying out the test. Multiple runs serve to confirm the proper implementation of test methodology. Multiple runs also serve to address the range of uncertainty, again both high and low, that may be present in individual test measurements, even when conducted properly.

[114] The average opacity values for the test runs with lower PM emissions had less variability. For example, for the three test runs with lower opacity, the average opacity values were 5.29, 5.15 and 5.02 percent and the measured PM emission rate for these test runs was 0.0112. 0.0088 and 0,0067 lb/mmBtu, respectively. However, the test runs in which PM emissions are higher are the ones that are relevant for assessing whether the time period for opacity data used in the CAM plans should be one hour or three hours.

[115] In this regard, 40 CFR 64.3(b)(4)(i) provides that:

> At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed.

significantly. This variability supports the use of a three hour period in the CAM plans. That is, as related to the state PM standards, it is not unreasonable to identify an excursion that requires corrective actions for the ESP using a three-hour period.[116]

USEPA's ESP CAM Protocol also indicates that, if appropriately justified, CAM plans for ESPs on coal boilers can use a period as long as three hours. As discussed, the PM testing conducted for the coal boilers shows it was reasonable for the source to have selected a period of three hours in its CAM plans:

> **You may use a different averaging period [longer than one hour], but you must justify a longer averaging time with additional supporting information. Such information will include data showing low emissions and opacity variability and a large margin of compliance under almost all operating conditions. In no case should you select an opacity-averaging time longer than 3 hours.**
> **USEPA ESP CAM Protocol, p. 6**

Comment 3b:

The CAM rule is not premised on identifying and selecting the most extreme indicator range under which a source can avoid violating an emission limit. Instead, the CAM rule provides that indicator ranges "shall reflect the proper operation and maintenance of the control device (and associated capture system), in accordance with applicable design properties, for minimizing emissions over the anticipated range of operation conditions at least to the level required to achieve compliance with the applicable requirements." 40 CFR 64.3(a)(2). Thus, the basic approach of the CAM rule is to determine what parametric indicator ranges reflect the proper operation and maintenance of the relevant pollution control device, and to make sure that the permittee promptly addresses any deviation from those ranges with responsive actions. In this manner, compliance with the associated emission limit is assured because operational problems that otherwise would cause violations are promptly corrected.

In order for this process to work, deviations from proper operation and maintenance of the facility should be addressed before they threaten compliance with the PM standard. The Draft permit does not do this: instead, it only requires responsive action if there is an exceedance of the opacity limit. This is problematic because the Illinois SIP states that a unit's violation of its opacity limit of 30 percent constitutes a presumptive violation of its PM limit. Pursuant to 35 IAC 212.124(d)(2)(A), violations of the opacity limits in 35 IAC 212.122 and 212.123 "shall constitute a violation of the applicable particulate limitations" in the SIP, unless the

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[116] **It should be understood that as the CAM plans relate to PM limits, they only address excursions and corrective actions relative to these limits. Separate from the CAM plans, the source must take corrective actions for a boiler in response to an excursion of the state opacity standard, 35 IAC 212.123. This standard generally limits opacity to 30 percent on 6-minute average, consistent with the methodology in Method 9. Accordingly, in practice, the source would need to take corrective actions for the boilers to address compliance with the opacity standard well before such actions would be required under the CAM plans relative to the PM limits.**

owner or operator submits contemporaneous performance testing results "under the same operating conditions for the unit and the control devices" showing that the unit complied with its PM limit. Thus, by the time the CAM plan requires responsive action, the PM limit will *already have presumptively been violated*. This is not consistent with the proper function of a CAM plan, which is to prevent violations rather than simply respond to them. Thus, Illinois EPA should require the permittee to take corrective action when opacity levels approach 30 percent, rather than after those levels have already exceeded the limit, so that exceedances can be prevented in the normal operation of the plant.

Response:

This comment misconstrues the CAM rule in several important respects. The comment erroneously suggests that the prompt correction of operational problems identified by deviations from the parametric indicator range for emission units is what "assures" compliance with associated emission limits, as the operational problems underlying such deviations would otherwise lead to violations. In fact, the reasonable assurance that emission units will remain in compliance derives from CAM's approach in documenting compliance through periodic performance test or other demonstrations of compliance between which the operation of units are under similar conditions and properly maintained.[117] Though the CAM rule establishes an essential obligation on a source to undertake corrective action when the CAM monitoring data reveals a problem, that obligation is not the driving force behind CAM, as the comment implies.

The comment also observes that the CAAPP permit would not require the source to address perceived problems in the proper operation and maintenance of emission units until after the occurrence of an opacity exceedance. However, the permit imposes specific requirements upon the source that are set out in the context of operation and maintenance. Condition 7.1.13-2(c)(i)(A) requires the source to maintain its monitoring equipment, including needed parts for repairs to this equipment. Condition 7.1.13-2(c)(i)(B) requires the source to generally monitor opacity at all times the boilers are operating and to make use of the relevant data in evaluating the operation of the control device and associated control system.

The CAAPP permit requires the source to formally react or respond to excursions, which, as acknowledged by the comment, will entail

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[117] **As discussed by USEPA in the preamble for its 1997 final rulemaking for the CAM rule, 40 CFR 64,**

> **…the CAM approach builds on the premise that if an emissions unit is proven to be capable of achieving compliance as documented by a compliance or performance test and is thereafter operated under the conditions anticipated and if the control equipment is properly operated and maintained, then there will be a reasonable assurance that the emissions unit will remain in compliance. In most cases, this relationship can be shown to exist through results from the performance testing without additional site-specific correlation of operational indicators with actual emission values. The CAM approach builds on this fundamental premise of the regulatory structure.**
> **62 FR 54,926 (October 22, 1997)**

corrective action by the source to address excursions above the value of the opacity indicator.[118] However, the comment further argues that the trigger for corrective action should be set at a lower level, as an excursion at the level of the state opacity standard is tantamount to a violation of the state PM standard. This conclusion is based on the operation of a State rule, 35 IAC 212.124(d)(2)(A), that treats an opacity violation as a presumptive violation of the state PM standard. However, this comment does not cite to empirical data or support for the conclusion that an opacity exceedance by the boilers would cause an actual exceedance of the PM standard. Based on the emission testing conducted pursuant to the earlier conditional approval of the CAM Plan, the Illinois EPA has determined that an exceedance of 30% opacity for one 6-minute average within an hour for which the PM standard is applicable does not indicate a PM exceedance.[119]

More fundamentally, the CAM rule does not equate excursions with "deviations" or "violations," [120] which the comment undoubtedly does. When developing the CAM rule, USEPA rejected an approach that would require monitoring to directly measure compliance with the applicable emission standard or limit, opting instead for the approach that was adopted, as already discussed. In addition, USEPA anticipated a "wide variance in CAM indicator range setting practices," preventing it from drawing strong inferences about excursions from indicator ranges. USEPA observed that while "staying within appropriately established indicator ranges gives a reasonable assurance of compliance, excursions from indicator ranges do not necessarily indicate noncompliance." Consequently, the assumptions underlying this comment, particularly its reliance on a state rule that was relevant only in the context of enforcement and is no longer even applicable to Powerton's coal boilers,[121] cannot be reconciled or combined with the approach taken by USEPA in the CAM rule.

Comment 4a:

Looking at the CAM plan, there is only one indicator to address compliance with the particulate matter (PM) standard, i.e., opacity.

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[118] **Consistent with the CAM rule, the corrective actions required by the CAAPP permit includes returning the operation to the usual manner of operation as soon as practicable using good air pollution control practices for minimizing emissions. The response must include minimizing periods of startup, shutdown or malfunction events, restoring operation through any necessary corrective action and preventing the reoccurrence of the reason for the excursion. *See,* Condition 7.1.13-2(c)(2)(A).**

[119] **Obviously, if implementation of the CAM plan, as fully approved by this CAAPP permit, would begin to reveal significant or recurring excursions threatening the state PM standard, the source is required to address such excursions through corrective action and/or the development of a Quality Improvement Plan as provided for by the CAM rule.**

[120] **USEPA declined to include the term "deviations" in the final CAM rule, in part, because of potentially conflicting meanings. *See,* 62 FR 54,908, October 22, 1997**

The term "violation" is predominantly used in enforcement and is seldom used in Title V permitting. In the context of the CAM rule, it is clear that permitting authorities may not simply assume that excursions or exceedances of an indicator value or range by a source equate to violations of an applicable emission standard or limit.

[121] **By its own terms, 35 IAC 212.124(d)(2)(A) has ceased to apply to the coal boilers at Powerton. This is because these boilers are now subject to standards pursuant to Chapter 112 of the Clean Air Act, i.e., the MATS rule, 40 CFR 63 Subpart UUUUU.**

In previous CAAPP permits for other plant, I have seen multiple indicators. I am curious how the Illinois EPA determines whether or not to add additional indicators?

Response:
There are presently are not any CAM plans for boilers at coal power plants in Illinois that have an indicator besides opacity. There were such CAM plans for the boilers at Coffeen but those CAM plans were revised during the recent reopening proceeding to remove the second indicator, i.e., the number of scrubber pumps in operation.[122]

As a general matter, it should first be clearly understood that sources develop CAM plans, not the Illinois EPA. The role of the Illinois EPA is to review the proposed CAM plans developed by sources to assure that they meet the requirements of the CAM rule, 40 CFR Part 64. This includes review of the indicator or indicators selected by the source to confirm that these indicator(s) are appropriate to address the proper operation or performance of the control equipment that is used to comply with the standard or limit that is addressed by the CAM plan. The Illinois EPA also reviews the value(s) or range(s) for these indicators selected by the source to confirm that they provide a reasonable assurance of compliance with the relevant standard or limit, as required by 40 CFR 64.3(a)(2). For coal-fired utility boilers, this has entailed review of the results of PM emission testing to confirm that the correlation between PM emissions and opacity is such that the selected values for opacity reasonably assures compliance with the applicable state standards for PM emissions. If the Illinois EPA determines that the CAM plan submitted by a source meets the requirements of the CAM rule, the Illinois EPA propose to approve the CAM plan. If the submitted CAM plan is determined to be deficient, the Illinois EPA typically works with the source to have it develop a revised plan that corrects the deficiencies and may be proposed for approval.[123]

Comment 4b:
Is it fair to say that for the CAM plans for the Coffeen plant and for the CWLP Dallman plant, there was a determination that opacity alone did not meet requirements?

Response:
For the Coffeen plant, it would only be correct to say that prior to the recent reopening proceeding that the CAM plans for the two boilers at Coffeen included two indicators, However, as already discussed, there was subsequently a determination by the Illinois EPA that these CAM plans should include only a single indicator, opacity. In response to public comments on the proposed full

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[122] During the public comment period for the reopening proceeding for Coffeen, several comments raised concerns about the use of this second indicator. These led the Illinois EPA to ask the source to revise the CAM plans to remove the second indicator. Accordingly, the current plans for the two boilers at Coffeen have only one indicator, opacity. See Responsiveness Summary for Reopening Proceeding for the Coffeen Station, January 18, 2017, pp 61 - 62.

[123] The CAM rule also provides that if a permitting authority determines that a CAM plan submitted by a source is deficient, it may issue a Title V permit that includes a compliance schedule for the source to develop and submit an approval CAM plan within 180 days (40 CFR 64(e)(2)).

approval of those CAM plans in the reopening proceeding for Coffeen, the Illinois EPA concluded that it was not appropriate in these CAM plans to address the operation of the scrubbers on the boilers. These scrubbers were installed for the primary purpose of controlling the SO_2 emissions of the boilers. The source did not adequately support their inclusion in the CAM plans as control devices for the PM emissions of the boilers.

For Dallman 4, the newest coal boiler at Springfield CWLP's Dallman Station, CWLP has submitted a CAM plan that has two indicators. However, only one indicator would be used at a time. In this regard, Dallman 4 is a new boiler that began operating in the summer of 2009. CWLP is required to conduct continuous emissions monitoring for PM for this unit by its construction permit, Construction Permit/PSD Approval 04110050. The CAM plan for this unit submitted by CWLP would appropriately use data for PM emissions collected by this monitoring system as the primary indicator. To address periods when data is not available from the PM monitoring system, CWLP proposed in this CAM plan to use opacity as an alternative or secondary indicator.[124] The Illinois EPA has made a preliminary determination that this approach is approvable under the CAM rule. Accordingly, this approach is reflected in the draft of the revised CAAPP permit that has been prepared in the reopening proceeding for the CWLP Dallman Station. However, the Illinois EPA has not yet completed that proceeding.

In summary, the CAM plans for boilers at other coal power plants cited by this comment do not support revisions to the CAM plan for the coal boilers at Powerton to add a secondary indicator. Powerton is currently not required to conduct continuous emissions monitoring for the boilers for PM emissions. While dry sorbent injection systems have recently been installed on these boilers to reduce SO_2 emissions, Midwest Generation has not addressed these new systems in its CAM plan as control devices for PM emissions.

Comment 5:
Fix the inadequate CAM plan in the draft permit to ensure that pollution controls are operated within performance ranges, and any excursions are detected and corrected.

Response:
The CAM plan addressed by the draft permit was generally adequate. It appropriately used opacity as the indicator for operation of the electrostatic precipitators, which control the PM emissions of the boilers. This plan also had an appropriate value for opacity, 30 percent, to reasonably assure that the ESPs are operated so that the boilers comply with the applicable state standard for PM emissions and identify any excursions. The only significant change to the CAM plan that was appropriate in response to the comments that were

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[124] Continuous emissions monitoring systems for PM are relatively new. These systems are more sophisticated than opacity monitoring systems and are not as readily maintained and repaired. Accordingly, it was reasonable for CWLP to include a secondary indicator in the CAM plan to address periods when data would not be available from the PM monitoring system on Dallman 4.

submitted involved the time period for the indicator value.[125] As now reflected in the revised CAM plan addressed by the issued revised CAAPP permit and as already discussed, the 30 percent opacity indicator value now applies on a rolling 3-hour average rather than a block 3-hour average.

Comment 6:
The draft of the revised CAAPP permit would not exactly specify how opacity correlate with PM emissions. This should be more specified.

Response:
As already discussed, the indicator value for opacity in the approved CAM plan is set at a value that reasonably assures compliance with the state emission standard that applies to the coal boilers for particulate matter. As such, this indicator value does not reflect a precise relationship between the monitored level of opacity and the particulate matter emission rate of the boilers. As also discussed, it is not necessary or appropriate for a CAM plan to establish such a relationship between the selected indicator and compliance with the relevant standard or limit.[126]

VII. Comments Regarding Conditions in Sections 7.2, 7.3 and 7.4

(7.2 – Coal Handling Equipment)
(7.3 – Coal Processing Equipment)
(7.4 – Fly Ash Handling Equipment)

1. Permit Conditions: 7.2.6(a)
7.3.6(a)
7.4.6(a)

Comment:
The CAAPP Permit should be revised to strengthen equipment standards that pertain to coal handling, coal processing, and fly ash equipment. Inadequate management of such equipment can lead to exceedances in fugitive emissions and noncompliance with federal and state laws. The permit should be revised to resolve the issues discussed below.

The CAAPP Permit must require stronger control measures for affected processes. Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.4.6(a)(i) pertain to control measures for affected operations for coal handling, coal processing, and fly ash handling equipment. Each of these conditions in the proposed permit states: "The Permittee shall implement and maintain the control measures for the affected [operations/processes]… for emissions of particulate matter to support the periodic monitoring for the applicable [emissions standards]." Portions of these conditions were significantly weakened compared to the 2005 Permit. The 2005 Permit actually required Midwest Generation to "implement and maintain control

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[125] The numerical value of the applicable PM limit was also changed to correctly reflect the value in 35 IAC 212.202, i.e., 0.1 lb/mmBtu rather than 0.10 lb/mmBtu.
[126] The results of the particulate matter emission testing for that were used to confirm the adequacy of the 30 percent indicator value for opacity are discussed in Chapter 4, Section 4.2, of the Statement of Basis that accompanied the draft of the revised permit.

measures for the affected [operations/processes]…that minimize visible emissions of particulate matter and provide assurance of compliance with the applicable [emissions standards]." The Statement of Basis for the draft 2015 Permit claims that "[t]he new language would more clearly reflect the objective for these conditions, consistent with [Illinois EPA's] original intent at the time that the initial permit was issued." Statement of Basis for draft 2015 Permit, at 34. However, as discussed in more detail below regarding USEPA's comments on the 2015 Permit, there are no specific monitoring requirements in Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i) of the 2015 Permit, even though the Statement of Basis asserts that the intent of these conditions was to support monitoring.[127]

Response:
These comments did not show that it was appropriate when the CAAPP permit was revised in 2015 to retain the wording of the subject conditions from the initial 2005 permit. As addressed in the 2015 permit proceeding, in the context of these conditions, the use of the word "minimized" was not appropriate. It could be construed to mean emissions must be "reduced to the least amount possible" whereas the intended meaning was simply that measures must be implemented that "reduce the generation of emissions." The phrase "assure compliance" also was not appropriate. In the context of the subject permit conditions, the phrase is vague as it does not further address the degree of assurance that is required. It also does address how control measures are to be evaluated to demonstrate that they assure compliance. Moreover, it was recognized that the observations for visible emissions and opacity that are also required by the permit serve to confirm the adequacy of the control measures that the source has specified for the subject operations.

2. Permit Conditions: 7.2.6(a), 7.2.9(b), 7.3.6(a), 7.3.9(b) 7.4.6(a) and 7.4.9(b)

Comment:
The changes to the permit that the Illinois EPA made in response to previous USEPA comments did not resolve identified flaws in the permit's inspection requirements. USEPA commented on the draft CAAPP permit issued for the significant modification in 2015 concerning conditions that cover coal and ash handling equipment. Specifically, USEPA raised concerns with the conditions regarding control measures for coal handling, coal processing and fly ash equipment, stating that "the draft CAAPP permit does not comply with 40 CFR 70.6(a) because it does not contain sufficient operational requirements to assure compliance with the applicable opacity and PM limits…" Illinois EPA, Responsiveness Summary for the Significant Modification of the CAAPP Permit Issued to Midwest Generation, LLC for the Powerton Generating Station, Sept. 18, 2015 ("2015 Responsiveness Summary") at 54. USEPA recommended that Illinois EPA:

[127] I support the changes to Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i) compared to the 2005 permit with those conditions now applying to all PM emissions rather than simply visible emissions of particulate matter. We support this broader applicability of these conditions.

revise Conditions 7.2.6(a)(i), 7.3.6(a)(i), and 7.4.6(a)(i) to specify the minimum set of control measures for the coal handling, coal processing and fly ash handling equipment; revise Conditions 7.2.9(b)(i) and (ii), 7.3.9(b)(i) and (ii), and 7.4.9(b)(i) and (ii) to require Illinois EPA to review and approve the selected control measures; and incorporate the specific control measures, including related pertinent information, corresponding to each emission point into the permit during the planned reopening proceeding. *Id.* In response, Illinois EPA opted against requiring a formal approval process for the selected control measures, or making any subsequent changes to the list of control measures, stating that, "mandating these additional requirements…is arguably unnecessary given the limited purpose meant to be served by the control measures (i.e., Periodic Monitoring)." *Id.* at 56.

Furthermore, USEPA provided comments on the frequency of the required Visual Emissions (VE) observations from coal handling, coal processing and fly ash equipment, stating that it is unclear how the "draft CAAPP permit inspection requirements and frequency of the required VE observations are adequate to yield reliable and accurate emissions data, as required by 40 CFR 70.6(a)(3)(i)(B)," given that the draft permit requires VE observations using EPA Reference Method 22 once per calendar year, even though the majority of the affected equipment operates regularly throughout the year. 2015 Responsiveness Summary at 57. USEPA advised Illinois EPA to include additional monitoring and/or testing to yield the reliable data that assures continuous compliance with applicable opacity and PM limits.

In response, Illinois EPA defended the periodic monitoring contained in those conditions. Illinois EPA pointed out:

> A key component of the Periodic Monitoring is an on-going requirement that the Powerton Station operate and maintain designated control measures for the equipment on an as-needed basis or, similarly stated, as necessary to assure compliance. This obligation, which is required whenever equipment is operating and material is being handled, is now codified in the permit, although various uses of control measures have long been practiced by the Powerton Station and the other utility sources.
> 2015 Responsiveness Summary, at 58 (references omitted).

Illinois EPA's response is inadequate for several reasons. First, Illinois EPA claims that the language is "now codified in the permit" but it is unclear what language Illinois EPA is referring to. Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i) of the 2005 Permit previously contained the specific language requiring control measures to "assure compliance" that Illinois EPA may have been referencing in the 2015 Responsiveness Summary but the language was changed in the Draft Permit to the following:

> The Permittee shall implement and maintain the control measures for the affected [operations/processes] … for emissions of particulate matter to support the periodic monitoring for the applicable requirements….
> Draft Permit, Conditions 7.2.6(a)(i), 7.3.6(a)(i) & 7.4.6(a)(i).

That change does little or nothing to address the concern because requiring control measures "to support the periodic monitoring" is as unclear and as unenforceable as control measures "to assure compliance." Allowing the Permittee to make the decision as to what measures "support periodic monitoring" renders these conditions subjective and, therefore, unenforceable by the Illinois EPA or a citizen who might have a different view as to what would support periodic monitoring.[128] In addition, USEPA's concern that the periodic monitoring requirements are inadequate is not strengthened by a requirement for control measures adequate to support periodic monitoring. That simply makes these permit conditions circular.

In the 2015 Responsiveness Summary, Illinois EPA also points out that "more frequent observations for visible emissions would not provide useful information." 2015 Responsiveness Summary at 58. It is difficult to comprehend why this is the case when one permit condition already requires that "[a]s part of the inspections of Condition 7.2.8(a), the Permittee shall perform observations of the affected operation(s) for visible emissions in accordance with 35 IAC 212.107 to demonstrate compliance with the requirements of Condition 7.2.4(b), unless the Permittee elects to perform Reference Method 9 observations in accordance with Condition 7.2.7(a)." Draft Permit at Condition 7.2.8(b); *see also* Conditions 7.3.8(b), 7.4.8(b). If observations are useful for confirming compliance with the permit requirements, it would seem to be that more frequent observations would be useful for confirming compliance more frequently. As Illinois EPA pointed out:

> [T]he absence of visible emissions is a criterion that will act to simplify the periodic inspections for certain equipment, such as the coal silos which are located in a closed building. For such equipment, the absence of visible emissions will likely readily confirm proper implementation of control measures.
> 2015 Responsiveness Summary at 59 (references omitted).

Similarly, more frequent observations confirming the absence of visible emissions will more frequently confirm the proper implementation, operation and maintenance of control measures. In sum, the conditions that Illinois EPA pointed to as addressing USEPA's concern are subjective, circular, unenforceable, and do not adequately respond to USEPA's previous comment. USEPA's comment that "it is not clear how the draft CAAPP permit inspection requirements and frequency of the required VE observations are adequate to yield reliable and accurate emissions data, as required by 40 CFR 70.6(a)(3)(i)(B)," 2015 Responsiveness Summary at 57, still applies and is reiterated as to the Reopened Permit.

Furthermore, it is noted that only requiring reporting of emissions calculations, without regular monitoring of actual emissions, will not ensure that the control measures are actually achieving an appropriate efficiency of operation (as opposed to just on paper).

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[128] USEPA Region 9 Title V Permit Review Guidelines (Sept. 9, 1999), at III-46; *see also In re Cash Creek Generation, LLC*, Permit No. V-09-006, 2012 EPA CAA Title V Lexis 5, *94-*96 (USEPA June 22, 2012) (granting petition to object on the grounds that Title V/PSD permit condition was too vague to be enforceable).

Condition 7.4.10(b)(ii) states that "[t]he Permittee shall submit quarterly reports to the Illinois EPA that include the following information for incidents during the quarter in which affected processes continued to operate during malfunction or breakdown with excess emissions or excess opacity." Recording and reporting operations without control measures do not provide any assurances of compliance. Requiring use of control measures does not provide any assurance that those control measures will achieve compliance without regular monitoring of actual emissions.

Response:

The earlier USEPA comments cited by this comment do not include facts supporting its claim that the requirements of the permit for formal inspections of the material handling operations would not be adequate. This comment also does not include facts showing that the requirements of the permit would not be adequate and that more frequent inspections are needed or appropriate for these operations. As already discussed, the aspect of this CAAPP permit that is relevant to the appropriateness of the required frequency of the inspections of the material handling operations is the requirement that Powerton codify the control measures that it implements for the subject operations. In both the 2015 permit and this revised CAAPP permit, this requirement is addressed in the conditions that follow the subject conditions, i.e., Conditions 7.2.6(a)(ii), 7.3.6(a)(ii) and 7.4.6(a)(ii).[129] The revisions that have now been made to these conditions by the issued permit do not alter the obligation placed on Powerton that it must implement the control measures for the subject operations that it specifies in a written document or record, i.e., the "Control Measures record," that it must prepare and submit to the Illinois EPA. Rather, the changes to these conditions enhance the enforceability of the measures specified by Powerton in the Control Measures Record since this record is incorporated into the permit by reference. In addition, the revised language recognizes that certain control measures, e.g., moisture content, enclosures and covers, are not actively "operated" by Powerton. Rather, these measures are more appropriately described as being implemented.

Powerton certainly will and must use its judgment when preparing the Control Measures Record. However, this does not mean that the provisions in the permit that require Powerton to implement the control measures specified in this record are unenforceable. In this regard, the role of the Control Measures Record is to provide definition and certainty as to the measures that Powerton implements for the subject operation. This record also enables a review of

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[129] **In the 2015 permit, these conditions provided that,**

> **The Permittee shall operate and maintain each affected operation with the control measures identified in the record required by Condition 7.[2, 3 or 4].9(b).**

In the revised permit that has now been issued, these conditions provide that,

> **The control measures implemented and maintained shall be identified and operated in conformance with the "Control Measures Record" required by Condition 7.[2, 3 or 4].9(b)(i) to satisfy Condition 7.[2, 3 or 4](a)(i), which record is incorporated by reference into this permit by Condition 5.2.9.**

those measures by the Illinois EPA or USEPA separate from empirical observations of the levels of opacity or emissions from these operations.[130]

3. Permit Conditions: 7.2.7, 7.2.8, 7.3.7, 7.3.8, 7.4.7 and 7.4.8

Comment:

To control PM and opacity emissions from material handling and processing operations, the Permittee uses, among other things, natural surface moisture, water atomized foggers, baghouses and dust suppression. These measures are identified in the Control Measures Record, which is incorporated by reference into the draft permit by Condition 5.2.9(a). To assure compliance with the applicable emission limits, the draft permit requires performance of: weekly inspections for loadout operations; monthly inspections for equipment other than loadout operations; annual observations of visible emissions (VE) in accordance with USEPA Method 22; and triennial VE observations in accordance with USEPA Method 9. *See* Conditions 7.2.7, 7.2.8, 7.3.7, 7.3.8, 7.4.7, and 7.4.8.

The draft permit's inspection and monitoring requirements specified above are not adequate to yield reliable and accurate emissions data that are representative of the Permittee's compliance with applicable PM and opacity limits, as required by 40 CFR 70.6(a)(3)(i)(B) and 70.6(c)(1), and Sections 39.5(7)(b), (c) and (d) of the Act. The frequency of inspections and monitoring will not provide sufficient data to determine whether the control measures being used are adequate and whether alternative control measures must be employed. This is because, among other things: the majority of the affected equipment operates continuously year-round; the permit allows for substantial variation in the type of control measure used; and weather conditions can have significant impacts on the adequacy of using natural surface moisture to control emissions. *See also* comment number two of EPA's May 12, 2015 letter regarding the draft Powerton Generating Station permit.

USEPA recognizes that the Permittee has conducted PM and opacity emissions testing that shows compliance with the applicable permit limits. However, the testing results do not contain sufficient data to provide a reliable and accurate picture of PM and opacity emissions from the material handling equipment to justify the frequency of inspections. Additionally, the PM testing information does not address how the Permittee quantified PM emissions from the equipment. Furthermore, the testing information did not specify which, if any, of the control measures other than natural surface moisture the Permittee implemented during testing.

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[130] **There are a number of rules that require that sources implement the provisions of certain plans that they themselves prepare. In the NSPS for Coal Preparation Plants, 40 CFR 60.254(c) requires that the owner or operator of a subject open storage piles "…must prepare and operate in accordance with a submitted fugitive dust emission control pan that is appropriate for the site conditions…." In Illinois, 35 IAC 212.302 and 212.309 require certain sources with fugitive emissions from material handling operations to prepare and implement Operating Programs that address the measures that will be used to reduce to those fugitive emissions.**

To address the above concerns, consistent with the monitoring frequency required in permits for similar sources[131] and the continuous nature of the subject operations, Conditions 7.2.8(b), 7.3.8(b), and 7.4.9(b) should be revised to require the Permittee to monitor on a frequency that will yield reliable and accurate emissions data, and that frequency must be supported by the permit record. The frequency of inspections may be supported by addressing each emission point and discussing in the Statement of Basis or Response to Comments the case-specific factors that affect fugitive emissions.

USEPA recommends requiring the Permittee to observe emissions in accordance with USEPA Method 22 at least once per day for each affected operation during normal operation. Under Illinois SIP requirements at 35 IAC 212.107, the length of the observations period is at the discretion of the observer, but not less than one minute. These daily observations may be performed by the plant operators involved in day-to-day operations who decide on a daily basis whether to operate additional control measures. For enclosed emission points where fugitive emissions from the subject operations are minimal, a requirement to perform weekly or monthly VE observations may be sufficient to ensure continuous compliance with the emissions limits if that frequency is adequately explained and justified in the permit record.

The permit should also identify appropriate next steps if emissions are observed, such as corrective action and/or Method 9 observations. Alternatively, the permit could require installation and operation of video monitoring equipment to monitor VE from the material handling and processing equipment and require appropriate next steps if emissions are observed.

Response:

In the issued permit, in response to this comment, an additional compliance requirement has been included for the coal storage pile operations (new Condition 7.2.8(d)). During warmer weather, May through November of each year, the issued permit requires the source to conduct a visual survey of these operations twice a month. From December through April, a visual survey is only required monthly. Each survey must include either an observation for visible emissions or for opacity.[132] For the storage pile operations, this provision

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[131] See, e.g., page 21 of the attached final Title V permit issued by the Wisconsin Department of Natural Resources for the Wisconsin Public Service Corporation - JP Pulliam Plant. The permit requires the performance of daily visual inspections along with the application of water and/or chemical dust suppressant as needed to assure compliance with the applicable PM and opacity SIP limits.

[132] New Condition 7.2.8(d) provides that these visual surveys must include either observations for visible emissions or opacity from the coal storage pile. Observations for visible emissions must be conducted in accordance with 35 IAC 212.107, which provides that such observation must be conducted in accordance with USEPA Method 22. The total duration of observations for visible emissions must be at least 10 minutes. As an alternative to conducting observations for visible emissions, Midwest Generation may elect to conduct an observation for opacity from the storage pile in accordance with USEPA Method 9, with at least one determination of opacity, 6-minute average, for the storage pile.

If visible emissions are observed going beyond the property line or the average of opacity observations is greater than 20 percent, this new condition requires that, within

addresses the potential role of weather, as mentioned in this comment, in the emissions of the storage piles and the control measures that are implemented. In particular, during warm weather, water evaporates more quickly and the exposed coal at the surface of a pile will dry, reducing its natural moisture content and increasing its potential for emissions.[133] Inspections of the coal pile conducted twice a month during warmer weather to address this potential for higher emissions. For material handling operations other than the coal storage piles, the material is not exposed to the open air for an extended period of time at the source so that drying has, at most, a minimal effect on emissions.

In other respects, the frequency of the formal inspections that is required as part of the Periodic Monitoring for the subject operations is reasonable. With regard to the coal handling and coal processing, these operations have a long-standing history of compliance. They operate with a substantial margin of compliance. The control measures that address emissions from the units are robust. That is, they are not easily interrupted or damaged. Because of the rudimentary nature of the control measures, they are also not at risk of upsets if their operation is not closely tracked. The operation and performance of these operations and their control measures is also directly apparent to the staff that operate them on a day-to-day basis as part of the receiving, handling and storage of material. The required frequency of inspections is consistent with the standard requirement for compliance inspections for these types of operations in the NSPS for Coal Preparation Plants, 40 CFR 60

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two hours, Midwest Generation take action if needed to assure compliance with the 30 percent opacity standard in 35 IAC 212.123(a).

[133] This provision is also considered appropriate as the source indicated that secondary control measures may be used for the coal pile "when handled coal is unusually dry."

Subpart Y.[134, 135]

With regard to the fly ash handling operations, these operations have a history of compliance. They operate with a substantial margin of compliance. The filters that control emissions from the internal transfer and storage of fly ash are highly efficient. The nature of the fly ash and the low temperature and moisture content of the gas streams is such that the bin vent filters are reliable devices. They are also not at significant risk of upsets and their operation can be reasonably verified by formal inspections on a monthly basis. Monthly inspection would be more frequent than the quarterly compliance inspections that would be required for these types of operations if subject to the NSPS for Nonmetallic Processing Plants, 40 CFR 60 Subpart OOO.[136] As such, for the operations involved in the transferring and storage or fly ash at the source, it is reasonable that the formal inspections of these operations to confirm proper operation be required conducted on a monthly basis.

The circumstances for the load out of fly ash from the plant are different than those of other fly ash handling operations. Formal inspections of this operation are appropriately required on a weekly

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[134] Under the NSPS for Coal Preparation Plants, 40 CFR 60 Subpart Y, for a subject facility that is subject to an opacity standard and is not controlled with a scrubber, 40 CFR 60.255(b)(2) provides that after the initial performance test or observations for opacity are conducted for new coal handling operation subject an opacity standard, periodic observations of opacity must be conducted as follows. The new facilities that are subject to these requirements are subject to an NSPS opacity standard of 10 percent, six-minute average, pursuant to 40 CFR 60.254. Accordingly, the criterion for periodic observations of opacity on a quarterly basis would be half of 10 percent, or 5 percent.

> For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted ….
>
> (i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.
>
> (ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

Daily observations for visible emissions and use of a digital opacity monitoring for subject facilities are not mandated by 40 CFR 60 Subpart Y. Rather, 40 CFR 60.255(f)(1) and (2) provides that the owner or operator of a subject facility may elect to monitor a subject operation using one of these approaches as an alternative to conducting opacity observations on a quarterly or annual basis, as appropriate.

[135] Under the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subpart I, for new non-metallic mineral handling operations whose fugitive emissions are subject to a 10 percent opacity standard and that use wet suppression to control emissions, 40 CFR 60.674(b) requires inspections of the wet suppression systems on a monthly basis. These inspections are not required to include observations for visible emissions. In addition, these operations are exempt from the requirements to conduct periodic performance testing for opacity at least every 5-years, as would otherwise be required.

[136] Under the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subpart I, for new operations that are controlled by baghouses, 40 CFR 60.674(c) requires that observations for visible emissions be conducted on a quarterly basis. It is noteworthy that for each new operation controlled by a baghouse, NSPS limit the emissions from the baghouse to 7 percent opacity.

basis. For this operation, control of emissions is less robust since emissions are captured by a telescopic chute. The position of the chute must be manually adjusted during load out and the chute could be subject to damage if not fully retracted when trucks enter and leave the loading area. Although the observed opacity from this operation is low, 4.2 and 5.0 percent, six-minute average, measurable opacity is present.[137]

As discussed in the comment, the source had observations for opacity conducted for these operations.[138, 139] The observations do not show that these formal inspections should be required more frequently. While the operational conditions under which the opacity observations were conducted may not have been as well documented as the commenter and the Illinois EPA would have liked, this is not a reasonable basis to now mandate more frequent inspections of these operations.[140] In fact, measurable opacity was not observed from most of these operations. When appropriately considered on a six-minute average, consistent with the compliance averaging period of 35 IAC 212.123, the highest average opacities observed were only 2.5 percent for coal storage operations and 5.0 percent for fly ash load out. These are well below the applicable standard pursuant to 35 IAC 212.123, 30 percent and 40 CFR 60 Subpart Y, 20 percent.

As to the suggestion in this comment that all required inspections should include observations for visible emissions, the comment is effectively asking that the permit impose a substantive requirement of the subject operations. This is because applicable rules do not prohibit visible emissions from the subject operations. The identification of the specific corrective actions that the source

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[137] In fact, Powerton only had observations for opacity conducted and not tests for PM emissions, as indicated by this comment. The material handling operations are not subject to rules that in practice act to restrict PM emissions. For example, for emission units handling 500 tons of material per hour, 35 IAC Part 212 Subpart L allows PM emissions of 67.0 and 69.0 for new and existing units, respectively. For units handling 20 tons of material per hour, it allows PM emissions of 12.5 and 30.5 pounds/hour, respectively.

[138] For the Coal Handling Equipment, Coal Processing Equipment and Fly Ash Handling Equipment, as required by the 2015 CAAPP permit, the source submitted the report for opacity observations on July 14, 2016. The observations were conducted at Powerton between June 14 and 17, 2016. Powerton environmental staff conducted the Method 9 opacity observations on emissions to verify compliance with the opacity limits for the subject equipment.

As required by the 2015 permit, Powerton submitted the initial Control Measures Record for the Coal Handling Equipment, Coal Processing Equipment and Fly Ash Handling Equipment to the Illinois EPA in December 2015. A revised Control Measures Records was subsequently submitted on April 28, 2016 as noted in the Condition 5.2.9 of the draft permit.

[139] A total of 46 observations of opacity were completed on emission points for units. All observations conducted demonstrated a significant margin of compliance with the applicable opacity limits in 35 IAC 212.123 and 40 CFR Part 60 Subpart Y. In particular, of 46 opacity observations conducted, only seven observations exhibited any opacity greater than zero, the highest 6-minute average of which was 5.0 percent.

[140] Deficiencies of this type for observations and testing are appropriately addressed by further evaluation, investigation and, possibly, requiring that such observations or testing be repeated with additional documentation for the conditions during such observations or testing to be kept.

Upon evaluation, the Illinois EPA has concluded that it is not appropriate to require that these observations be repeated. It is reasonable to assume that during the period in which observations were conducted, these operations were being operated as they are normally operated and not in a way that was not representative of normal operation.

must take in the event of visible emissions would also constitute establishment of new substantive requirements in the permit.[141, 142]

Finally, video monitoring equipment is clearly not appropriate for the subject operations. Visible emissions are not prohibited by the applicable substantive requirements that do apply to the subject operations. The operations are not currently the cause of either a real or alleged dust nuisance.

4. Permit Condition: 7.3.7(b)(v)

Comment:
The draft permit does not provide adequate recordkeeping or reporting processes. The recordkeeping conditions of the Draft Permit do not meet the Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying permit limits. 40 CFR 70.6(a)(3)(i)(B), (c)(1). Furthermore, the Draft Permit contains insufficient reporting requirements. Reporting keeps Illinois EPA updated on any problems with the Powerton Plant, giving Illinois EPA and Midwest Generation the opportunity to resolve any issues. Furthermore, Midwest Generation must engage in adequate reporting to provide Illinois EPA and citizens with the information necessary to demonstrate

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[141] **It is also relevant that this comment has been made by USEPA several years after repeated discussions between the staff of the Illinois EPA and USEPA Region 5 concerning the basis for resolving the appeals of the initial CAAPP permits. These discussions between technical and legal staff of USEPA and the Illinois EPA evolved around the appropriate refinements to the approach to Periodic Monitoring for the subject operations. As the Illinois EPA explained in those discussions, the approach in the initial permits with annual observations of opacity by Method 9 was being reduced in the revised permits frequency to accommodate a revised monthly inspection protocol, with the possibility for follow-up corrective actions of Method 9 observations. During these discussions, USEPA staff did not object to the approach or otherwise suggest that a reduction in the frequency of Method 9 observation would create an unworkable permit. Based upon the subsequent absence of comment or formal objection by USEPA during the last stages of the revisions to permits in 2012 and 2013, it was believed that the revised approach had been adequately explained by the Illinois EPA and been found acceptable by USEPA.**

[142] **While 35 IAC 212.301 addresses visible emissions of fugitive particulate matter, it does so at the property line of a source. 35 IAC 212.301 provides for the dispersal of fugitive emissions that occurs over plant property between the unit(s) generating the emissions and the property line of the source. In addition, 35 IAC 212.301 prohibits visible emissions of fugitive particulate matter only if they would be visible by an observer at or beyond the property line looking directly overhead. It does not prohibit fugitive emissions that are visible by an observer looking toward the source or along the property line. In addition, 35 IAC 212.314 provides that 35 IAC 212.301 is not applicable during periods of elevated wind, i.e., winds greater than 25 mph, on an hourly average.**
Given these considerations, the nature of the subject operations and the applicability of 35 IAC 212.123, which directly limits the opacity of emissions from the subject operations, 35 IAC 212.301 is not expected to constrain the emissions of the subject operations in practice. In particular, 35 IAC 212.301 addresses the presence of emissions that are visible at the property line of a source, distant from the point at which emissions occur. However, a new condition has been included in the issued permit, Condition 5.2.2(a)(ii), to directly address compliance with 35 IAC 212.301, It provides that, upon request by the Illinois EPA, the source must conduct daily observations at the property line for a week to address compliance with 35 IAC 212.301. This requirement addresses the unlikely circumstance that the emissions from the subject operation(s) would be such that compliance with 35 IAC 212.301 might be put into question.

compliance with the law. The Draft Permit should be revised to resolve the following issues.

The Illinois EPA should reinstate or explain the removal of the reporting requirements for opacity observations in Conditions 7.3.7(b)(v). Illinois EPA has eliminated Condition 7.3.7(b)(v) from the Draft Permit. This governed opacity observation requirements for coal processing equipment. The Statement of Basis for the draft 2015 Permit notes that "the coal processing operations do not actually have control devices and stacks/vents that would be amenable to emissions testing. As such, it is impractical to directly measure emissions of these operations by testing." Statement of Basis for Draft 2015 Permit at 40. Can Illinois EPA please further explain why such testing is impractical and unreasonable? This statement is unsupported and therefore an inadequate basis for removing any testing requirement for PM from the coal processing operations.

Response:
PM emission testing is not practical for the subject operations because the exhaust gas flow rate cannot be properly measured by USEPA Reference Methods. As provided by Method 5, the test method that might be used to measure the concentration of PM in the exhaust from these units, emission testing of these units would also require measurements of the exhaust gas flow rate.

> **… to obtain reliable results, persons using this method should have a thorough knowledge of at least the following additional test methods: Method 1, Method 2, Method 3.(sic)**

Method 1 addresses the measurement of gas flow rate in a duct or stack, which is an essential part of PM emission testing.[143] Given that these ducts cannot meet the requirements for these methods, any requirement to test using Method 5 would be impractical because the measurement for exhaust gas flow rate would not be reliable.

5. **Permit Condition: 7.4.7(b)(v)**
   Related Condition: 8.6.3

Comment:
The draft permit would not provide for adequate reporting meeting the Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying permit limits. 40 CFR 70.6(a)(3)(i)(B) and (c)(1). It is important that the

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[143] **Method 1 is not applicable for ducts or stacks in which the gas flow is swirling or "cyclonic" or ducts or stacks smaller than 12 inches in diameter or 113 inch^2) in cross-sectional area. It is accompanied by three alternative procedures: 1) Simplified procedures for no cyclonic or swirling flow; 2) Procedures for units whose ductwork does not provide for an acceptable sampling point (required distance from upstream and downstream flow disturbances); and 3) Procedures for small ducts. The first alternative is limited to ducts larger than 24 inches. The second alternative is not available for ducts with cyclonic flow. As the subject units and their associated ductwork cannot meet these requirements, only the third alternative procedures for small ducts are potentially available.**
While these alternative procedures are applicable for stacks or ducts greater than 4 inches in diameter or 12.57 square inches in cross-sectional area, they are not applicable when the flow is cyclonic. Thus, even though some of the ducts would possibly meet the size criteria, these procedures are not applicable because of cyclonic flow induced by the upstream/downstream bends in the ductwork and the effect of the sampling probe itself.

permit require adequate reporting by the source. In particular, in the issued permit, the Illinois EPA should reinstate or further explain the removal of reporting requirements in Condition 7.4.7(b). Condition 7.4.7(b)(v), which governs opacity observation requirements for fly ash handling operations, does not include several reporting requirements that were contained in the 2005 permit for Powerton. The Draft Permit would no longer require Midwest Generation to submit information on the sampling points, the sampling train, detailed data and calculations, records of laboratory analyses, sample calculations, data on equipment calibration, and representative opacity data measured during testing, at least to the degree that such data varies over time. Although Condition 7.4.7(b)(v) references Condition 8.6.3 of the Draft Permit for reporting requirements, Condition 8.6.3 also does not require any of this eliminated information. Note that Condition 8.6.3(f) of the draft permit requires "[t]he results of the tests including raw data, *and/or* analyses including sample calculations" (emphasis added). Thus, under Conditions 7.4.7(b)(v) and 8.6.3 of the Draft Permit, unlike Condition 7.4.7(b)(v) of the 2005 Permit, applicants only need to provide raw data *or* analyses including sample calculations, not both. It is important for Midwest Generation to submit more, rather than less, information on its opacity observations. Providing more detailed information allows Illinois EPA to verify that these observations are being properly conducted and PM pollution is being kept to a minimum. If Midwest Generation is not required to allow Illinois EPA and the public and opportunity to closely examine this information, there may be an error in observation processes or results that may go unnoticed, potentially resulting in preventable pollution. Thus, Illinois EPA should reinstate the requirements of Conditions 7.4.7(b)(v) from the 2005 Permit, or explain more fully why they were removed.

Response:
It was appropriate for this condition, which addresses the content of reports for PM stack testing conducted on any stacks or vents of fly ash handling processes, be revised as planned.[144, 145] A comparison

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[144] This comment incorrectly indicated that Condition 7.4.7(b)(v) addresses reporting for observations of opacity, not for testing for PM emissions. In fact, requirements for opacity observations for fly ash handling processes are addressed in Condition 7.4.7(a) and have not changed. Nevertheless, the Illinois EPA has responded to this comment as it generally indicated that there were flaws in the planned changes to Condition 7.4.7(b)(v).
[145] With respect to opacity observations for the ash handling processes, this comment also stated the following (emphasis added):

> **It is important for Midwest Generation to submit more, rather than less, information for its opacity observations. Providing more detailed information allows the Illinois EPA to verify that these observations are being properly conducted and PM pollution is being kept to a minimum. If Midwest Generation is not required to allow the Illinois EPA and the public and opportunity to closely examine this information, there may be an error in observation processes or results that may go unnoticed, potentially resulting in preventable pollution.**

In fact, the information that must be included in reports for opacity observations is fully addressed by Condition 7.4.7(a)(v). Among other things, this condition requires that such reports include; 1) A description of observation conditions, including recent weather; 2) A description of the operating conditions of the subject processes; 3) Raw data; 4) The determinations of opacity; and 5) Conclusions.

of the required contents of reports for this testing pursuant to Condition 7.4.7(b)(v) in the 2005 permit and the draft permit shows that relevant information would still appropriately be required in these test reports. In this regard, Condition 7.4.7(b)(v) in the 2005 permit provided that these reports must include the information specified in Condition 8.6.3 <u>and</u> certain information specifically identified in Condition 7.4.7(b)(v)(A) through (E). However, this information specifically identified in Condition 7.4.7(b)(v)(A) through (E) duplicated information required by Condition 8.6.3 or was not needed for these reports. This has been corrected in the issued permit.

In particular, information on the sampling points and the sampling train is required to be included in test reports by Condition 8.6.3(e) as it requires that test reports include information on the test and analytical methodology used. Laboratory analyses are addressed as information on analytical methodology is required. Information on equipment calibration is required as equipment calibration is an aspect of the applicable methodology. Condition 8.6.3(f) requires test reports to include detailed data and sample calculations for testing. Opacity during PM testing is not required to be measured by Condition 7.3.7(b) so a requirement for reporting of such data during PM testing is not appropriate.[146]

In the issued permit, Condition 8.6.3(f) has been reworded so that it cannot be interpreted to require reporting of either raw data or sample calculations, but not both, in the manner suggested by this comment. Both raw data and sample calculations are now required for the various tests and analyses that are entailed in the testing of the emissions of particular emission units.[147]

6. Permit Condition: 7.4.8(a)

<u>Comment:</u>
The Draft Permit would not contain adequate testing, inspection and evaluation standards. The inspection and testing requirements contained in the Draft Permit are far too weak and fail to ensure compliance with applicable requirements. The Draft Permit should be revised to resolve the problematic conditions below.

Illinois EPA Should Continue to Require Weekly Inspections of All Process Emission Units that Handle Fly Ash. Inspections are a crucial element of ensuring that permit holders demonstrate reasonable assurance of compliance with all state and federal laws. Otherwise, reduced inspection standards create the risk of unsafe operating conditions by either perpetuating issues that already exist, or allowing preventable issues to develop.

Moreover, as already discussed, it is appropriate to consider the opacity observations that are required to be a form of performance testing, whose role is to authoritatively confirm compliance. It is not realistic to anticipate that these observations would reveal exceedances of the opacity standard.

[146] If representative opacity data during emission testing were determined to be needed, the Illinois EPA would require the source to conduct such opacity observations, as is provided for by Condition 7.4.7(a)(i) (C). The report for those opacity observations would be addressed by Condition 7.3.7(a)(v).

[147] In the issued permit, Condition 8.6.3(f) requires that emission test reports include "The results of the tests and/or analyses, with raw data and sample calculations.

Condition 7.4.8(a) of the 2005 Permit for the Powerton Plant required inspections of the affected processes in fly ash handling to be conducted on at least a weekly basis. Unfortunately, the 2015 Permit and the Draft Permit only require Midwest Generation to inspect loadout operations on at least a weekly basis; all other processes need only be inspected on at least a monthly basis. Draft Permit at Condition 7.4.8(a)(i)-(ii). Illinois EPA should continue to require Midwest Generation to conduct weekly inspection of these processes to avoid process emission units that handle fly ash from malfunctioning for several weeks. Illinois EPA should, therefore, retain in the Draft Permit the weekly fly ash handling inspection requirement that was included in the 2005 Permit.

Response:
As discussed, it is appropriate that the formal inspections of the operations at Powerton that handle fly ash within the plant be conducted on a monthly basis. Opacity observations have been conducted for the various fly ash handling operations that support changing the frequency of required inspections for these operations to monthly. Formal inspections on a weekly basis are only warranted for the fly ash loadout operation. This operation poses concerns for proper function that are not present for the other operation. It was also the only fly ash handling operation from which any opacity was observed. While the measured opacity was small (maximum 5.0 percent), the presence of measurable opacity also supports keeping the formal inspections for fly ash load out on a weekly basis.

7. Permit Conditions: 7.2.9, 7.3.9 and 7.4.9

a. Comment:
The Control Measures Record should be revised to specify the circumstances under which secondary control measures are employed in order to remain in continuous compliance with applicable opacity and PM limits. The Control Measures Record includes primary control measures and, for certain emission sources, secondary control measures. The Control Measures Record allows the source to operate control measures "as needed" but does not specify the circumstances under which the secondary control measures must be employed. Therefore, it is not clear to the source, the public, or Illinois EPA when the source should employ control measures that include this language. Terms for demonstrating compliance with applicable requirements must be clearly described so that the permit language is clear and enforceable as a practical matter.

The Illinois EPA must revise the language in the permit and/or Control Measures Record such that the events that require the implementation of the secondary control measures is clear and enforceable. The language must ensure that the source can demonstrate continuous compliance with applicable emission limitations. For example, the permit or Control Measures Record may require that secondary control measures be employed whenever the primary control measures are unable to prevent VE.

b. Comment:
The Control Measures Record should be revised to clarify what constitutes "dusting conditions." The Control Measures Record

allows the source to implement secondary control measures "[w]hen coal is dry or dusting conditions exist." The Illinois SIP, Control Measures Record, and the draft permit do not define or explain when "dusting conditions exist." Therefore, it is not clear when the source should implement the secondary control measures. Terms for demonstrating compliance with applicable requirements must be clearly described so that the permit language is clear and enforceable as a practical matter.

Illinois EPA must revise the permit and/or Control Measures Record to specify the conditions that constitute "dusting conditions" or revise the language such that the events that trigger the implementation of the secondary control measures are clear and enforceable. As discussed above, the purpose of the control measures is to ensure compliance with substantive requirements; therefore, the permit must ensure that the control measures enable the source to demonstrate continuous compliance with applicable emission limitations. Illinois EPA may resolve this issue by including the following language in the permit or Control Measures Record: "the source must operate the secondary control measures whenever the primary measures are unable to prevent VE."

Response:

In response to these comments, the Illinois EPA has worked with Midwest Generation to develop a revised Control Measures Record that does not include the phrases "as needed" or "when dusting condition exist"[148] In the revised Control Measures Record that is incorporated into the issued permit, secondary control measures will be used when the coal being handled is dryer than normal, such that the use of secondary control measures is necessary to comply with an applicable standard. Water sprays, which were identified as primary control measures for certain coal handling operations, are now identified as secondary control measures. This more appropriately recognizes that water sprays would only be used in certain circumstances. i.e., when the temperature is above freezing and the coal is dry so that use of secondary control measures is needed.[149] These changes provide greater clarity as to the circumstances in which secondary control measures would be used

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[148] The initial Control Measures Record, which would have been incorporated by the draft permit, provided that for coal unloading by rail and coal storage piles, water sprays would be a secondary control measures, indicating that water spray may be used "as needed" or "when dusting conditions exist" to supplement or replace primary control measures.

[149] The initial Control Measures Record and Fugitive PM Operating Program, which would have been incorporated by the draft permit, provided that water sprays would not be operated from December 1st through the end of February and at temperatures below freezing. Upon further consideration, it was recognized that the specific concern for these control measures that was being addressed was freezing of water on surfaces and in piping and spray equipment. This would inherently occur only during freezing or cold weather, which is when the received coal would retain its natural surface moisture. Accordingly, water sprays only need to be addressed as secondary control measures, which would potentially be used during warmer weather when the coal handled by the plant may be dryer than normal.

It is also unclear how 40 CFR 70.6(a) acts to dictate that Powerton must use either primary or secondary control measures for its material handling operations to minimize emissions, as claimed by this comment. 40 CFR 70.6(a) addresses a variety of standard provisions that must be included in a Title V permit, including requirements for Periodic Monitoring. However, Periodic Monitoring does not dictate that sources must minimize emissions of units below the levels that are needed for compliance.[150]

8. Permit Condition: 7.4.10(a)(ii)

Comment:

The recordkeeping conditions of the Draft Permit would not meet the Title V/Part 70 requirement that monitoring must provide data representative of the source's compliance with the underlying permit limits. 40 CFR 70.6(a)(3)(i)(B), (c)(1). Furthermore, the Draft Permit contains insufficient reporting requirements. Reporting keeps Illinois EPA updated on any problems with the Powerton Plant, giving Illinois EPA and Midwest Generation the opportunity to resolve any issues. Furthermore, Midwest Generation must engage in adequate reporting to provide Illinois EPA and citizens with the information necessary to demonstrate compliance with the law. The Draft Permit should be revised to resolve the following issues.

Condition 7.4.10(a)(ii) From the 2005 Permit Should Not Be Revised. There are several problems with Condition 7.4.10(a)(ii) of the Draft Permit. This Condition requires Midwest Generation to notify Illinois EPA of incidents in which it continued to operate process emission units that handle fly ash for more than 12 operating hours "after discovering that emission control measures required by the record identified in Condition 7.4.9(b)(i) were not present or operating." However, Condition 7.4.9(b)(i) of the Draft Permit does not delineate what specific emission control measures are actually required. Rather, it requires Midwest Generation to record a description of the "primary" and "secondary" control measures. Condition 7.4.9(b)(i)(B)-(C) of the Draft Permit. This is concerning because under Condition 7.4.10(a)(ii), the permittee is only required to report the absence or malfunction of specified control measures: if no control measures are specified in Condition 7.4.9(b)(i), then the permittee is relieved of the reporting requirement in Condition 7.4.10(a)(ii).

Condition 7.4.10(a)(ii) is also problematic because, in contrast to the same Condition in the 2005 Permit, it only requires reporting when control measures are not present or operating, rather than when control measures are not in compliance with applicable requirements. Limiting the permittee's responsibility to report instances of noncompliance reduces the volume of information Illinois EPA

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[150] **With respect to Periodic Monitoring, 40 CFR 70.6(a)(3)(B), provides that**

Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit…

receives regarding violations of the Plant's operating conditions. Obviously, noncompliance is not a matter that should be treated lightly or go unreported.

Finally, Condition 7.4.10(a)(ii) extends the amount of time that would trigger reporting. Whereas the 2005 Permit required reporting after four operating hours, the Draft Permit would require reporting after 12 operating hours. This increase in time also lessens Illinois EPA's (and the public's) understanding of compliance problems at the plant. The Draft Permit should therefore be revised to return to the four-hour reporting trigger contained in Condition 7.4.10(a)(ii) of the 2005 Permit.

Response:
The change made to this condition is appropriate. As discussed elsewhere, the nature of the material handling operations at Powerton for which the CAAPP permit requires "use of control measures" is such that the specific measures that the source implements need not be defined in the permit. These measures may be appropriately defined in the "Control Measure Record(s)" that the source must maintain.

The source will need to implement control measures for fly ash. Fly ash is a fine, dry material. It is not reasonable to expect that fly ash handling operations could comply with applicable emission standards without implementing any control measures. The situation put forth by the comment, that the source would not implement any control measures for fly ash handling operations, is wholly hypothetical.

For the fly ash handling operations, pursuant to Condition 7.4.10(a)(iii), the source must generally report deviations from applicable requirements, including deviations from emission standards, in a quarterly report. The condition addressed by this comment, Condition 7.4.10(a)(ii), addresses incident-specific reporting that is required for certain deviations involving control measures. In this regard, Condition 7.4.10(a)(ii) refers to deviations from the requirement for implementation of control measures, Condition 7.4.6(a). As drafted, Condition 7.4.10(a)(ii) would require this incident-specific reporting for deviations in the use of control measures that are longer than 12 hours. The applicable emission standards that apply to the fly ash handling operations are addressed in Condition 7.4.4. Reporting of deviations from these standards, as well as for deviations involving control measures for which incident-specific reporting is not required, is addressed in Condition 7.4.10(a)(iii).

Accordingly, the relevant issue posed by the change to Condition 7.4.10(a)(ii) is whether it is reasonable to change the period of time before a deviation involving control measures must be individually addressed in an incident-specific report rather than reported in a quarterly report. The Illinois EPA has concluded that it is not unreasonable to increase this time period as requested by Midwest Generation. Incident-specific notification for deviations that continue for more than 12 hours, rather than only for 4 hours, will still require such notifications for deviations that are most worthy of individual attention by the Illinois EPA. Deviations that

continue from one day to the next will still be required to be individually reported. At the same time, the information that the source must report for deviations involving implementation of control measures will not be meaningfully affected. The source must still address all such deviations in a quarterly report.

IX. Comments Regarding Renewal of the Acid Rain Permit

1. Permit Section: 10.5 (Attachment 5)

Comment:

Along with issuance of a revised CAAPP for Powerton, the Illinois EPA is planning to renew the Acid Rain Permit for Powerton. What changes are proposed to be made to this permit when it is renewed? I feel like that this is something that has been just slid over.

Response:
Acid Rain Permits are an administrative requirement under the Federal Acid Rain Program pursuant to Title IV of the Clean Air Act. This program addresses emissions of SO_2 and NOx from power plants as these emissions contribute to acid deposition, commonly referred to as "acid rain." Acid Rain Permits serve to confirm the regulatory requirements that apply to specific electrical generating units under this program. This includes such matters as the annual allocation of SO_2 allowances for existing units, the limits for NOx emissions for coal-fired units and the approach to compliance with the NOx limits. The renewed Acid Rain Permit for Powerton would identify the allocations of SO_2 allowance for this source for the term of the permit. It would also identify the current "designated representative" for Powerton. This is the person that has been designated by a source to be responsible for various matters under the Acid Rain Program, including the submittal of required reports and overseeing the SO_2 allowance account for the source that is managed by the USEPA.[151]

F. General Comments with Responses by the Illinois EPA

1. General Comments Concerning Startups, Shutdowns And Malfunctions:

The Draft Permit would not comply with CAA requirements for limiting emissions during startup, shutdown and malfunction (SSM) events. The Draft Permit's reporting and operational requirements during periods of SSM of the plant are unlawful, were unlawful when first proposed, and are now actively being replaced across the country. Illinois EPA is apparently relying on SSM provisions in the Illinois SIP that are based on the previous national SSM rule. However, SSM exemptions from emission limits as a category run contrary to the Clean Air Act, as determined by recent federal decisions on the topic and as manifested by USEPA's recent SSM SIP call, because they undermine the protection of the national ambient air quality standards ("NAAQS") and other fundamental requirements of the Clean

[151] **More information about the Acid Rain Program is available at: https://www.epa.gov/airmarkets/acid-rain-program**

Air Act. *See USEPA, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015). The current Illinois SSM SIP has been explicitly invalidated. The state was obligated to propose a replacement SSM SIP by November 2016, which it has not done.

Accordingly, the current SIP cannot serve as a legitimate basis for Illinois EPA's terms in this Draft Permit. We therefore urge Illinois EPA to rescind its explicit allowances for exceedances of emission limits during SSM periods; in the alternative, to establish "sunset" provisions in this permit automatically eliminating all SSM permit terms as soon as the SIP provisions upon which they are based are replaced; or, at the very least, to commit to an immediate and automatic reopener process when the SSM SIP provisions are replaced.

The Draft Permit's Authorization of Exceedances During SSM Events Violates the Clean Air Act. Any exemptions to emission limitations, for whatever reason, are contrary to the Clean Air Act and to USEPA's longstanding policy that emission limitations must apply and be enforceable at all times. The Clean Air Act specifies that SIPs must include enforceable "emissions limitations," and further requires that these "emissions limitations" apply on a "continuous" basis. 42 U.S.C. §§ 7410(a)(2)(A) and (C) and 602(k).[152] Exceptions allowing facilities to emit additional pollutants by operating during SSM events prevent the "continuous" enforcement of emission limits. Thus, they conflict with the plain language requirement of CAA § 110(a)(2)(A) as defined by CAA § 302(k). Any exemptions also rob USEPA and the public of their enforcement power in violation of the enforcement provisions in sections 113 and 304 of the Act.

Exempting emissions also conflicts with the core purpose of the Clean Air Act. USEPA recognizes its "overarching duty under the [Clean Air Act] to protect public health through effective implementation of the NAAQS." USEPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 9. Startup, shutdown and malfunction events result in short-term releases of a large amount of pollution, including releases of SO_2 and NOx, as well as other toxic and carcinogenic pollutants, in amounts that are many times above the legal limits. *See* Environmental Integrity Project, *Gaming the System: How Off-the-Books Industrial Upset Emissions Cheat the Public Out of Clean Air*, at 5-8 (Aug. 2004).[153] Though there is a paucity of data on excessive emissions events,[154] a 2004 study by the Environmental Integrity Project shows that excess pollution released during SSM events can

[152] Recent court decisions also have emphasized that emission limits must be continuous according to the plain language of the Act. EPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 4, n. 10 (Feb. 4, 2013) (citing *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008) & *U.S. Magnesium, LLC v. EPA*, 690 F.3d 1157, 1160 (10th Cir. 2012).

[153] Available at http://www.environmentalintegrity.org/news_reports/Report_Gaming_System.php.

[154] A 2012 report from the Louisiana Bucket Brigade concluded that "[o]ver 20% of reports across all refineries contain no information about the accident, what was released, how much, what caused the accident and what will be done to prevent it in the future." Louisiana Bucket Brigade, *Common Ground IV*, at 1 (2012).

actually exceed the "normal" annual amount of pollution that facilities report otherwise.

In short, continuous and enforceable emission limits are the only way to ensure protection of ambient air quality standards. As USEPA noted in its new SSM rule, "SIPs are ambient-based standards and any emissions above the allowable [ambient concentration] may cause or contribute to violations of the national ambient air quality standards." USEPA Memorandum to Docket EPA-HQ-OAR-2012-0322, at 9 (citing 1982 SSM Guidance). Continuous and enforceable limits also ensure that pollution sources continue to have a strong incentive to operate using best practices and to invest in appropriate pollution controls and equipment. 78 Fed. Reg. at 12,485.

The D.C. Circuit has held that any affirmative defenses whatsoever against enforcement of emission limitations are inconsistent with the Act. *Nat. Res. Def. Council v. E.P.A.*, 749 F.3d 1055, 1063 (D.C. Cir. 2014). In April 2014, in *Nat. Res. Def. Council*, the D.C. Circuit struck down the affirmative defense provisions in regulations allowing portland cement plants to avoid monetary liability for violations of emission standards during unavoidable malfunctions. *Id.* at 1064. In so holding, that court noted that the Act's citizen suit and civil penalty provisions, Sections 304 and 113, make the question of what civil penalties, if any, are appropriate in a citizen suit enforcement action a question for district courts to decide, not USEPA. *Id.* at 1063. The court thus found that USEPA had no authority to create the affirmative defense. *Id.* at 1064. In response to this ruling, USEPA also has made clear the unlawfulness of allowing unenforced, unrestricted emissions during SSM in its new SSM rule. In that rule, USEPA states that emission limits apply at all times, including during SSM events, and no affirmative defenses to enforcement may be employed. USEPA, *State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction* (May 25, 2015).[155]

Response:
As already discussed, the USEPA's SIP Call for SSM does not support the changes to the CAAPP permit for Powerton that this comment recommends. Provisions of approved SIPs are not invalidated or directly altered by the SIP call, as claimed by this comment. USEPA clearly recognized this in the preamble to the SIP call stating:

> **When the USEPA issues a final SIP call to a state, that action alone does not cause any automatic change in the legal status of the existing affected provision(s) in the SIP. During the time that the state takes to develop a SIP revision in response to the SIP call and the time that the EPA takes to evaluate and act upon the resulting SIP submission from the state pursuant to CAA section 110(k), the existing affected SIP provision(s) will remain in place.**

[155] Available at http://www.epa.gov/air/urbanair/sipstatus/docs/20150522fr.pdf.

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> The SIP Call requires appropriate rulemaking by affected states and jurisdictions, not source-by-source actions during permitting.[156] For Illinois, until the Pollution Control Board (Board) completes such rulemaking[157] and this rulemaking is approved by USEPA as revision to Illinois' SIP, CAAPP permits must implement the provisions of the current SIP.[158]
>
> It is also not appropriate for this CAAPP permit to include "sunset provisions" or otherwise address the transition between the current SIP and the revised SIP. This is because this transition and other actions that are appropriate in Illinois to respond to the SIP call will necessarily be an aspect of the rulemaking for the required revisions to Illinois SIP.[159]

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[156] As discussed in this comment, USEPA has reconsidered the provisions that address the potential for "excess emissions" during SSM in the SIPs of a number of states and local jurisdictions, including Illinois' SIP. USEPA has now found that many of these existing SIP provisions, including the relevant provisions of Illinois rules dealing with startup and malfunction and breakdown events, which USEPA had previously approved, are inconsistent with provisions of the CAA.

Parallel with its SIP Call related to SSM events and its work with affected states and other jurisdictions on revisions to their SIPs, USEPA is also committed to undertaking rulemaking to revise a number of federal emission standards that it adopted. These standards must also be revised so they appropriately address emissions during SSM.

[157] In Illinois, this rulemaking would involve a proceeding before the Board in which the Illinois EPA, potentially affected sources and interested members of the public could all participate.

[158] 35 IAC 201.149 prohibits startup (S) of an emission unit or continued operation of an emission unit during malfunction or breakdown (MB) if such operation would cause a violation of an applicable state emission standard absent express permit authorization for such violation. This rule does not address potential violations of SIP limitations during shutdown. Accordingly, changes to Illinois' SIP related to shutdown are not actually required by the SIP Call, only for startups and "malfunction and breakdown" events, more simply referred to as "malfunctions" by USEPA in the SIP call.

35 IAC 201 Subpart I sets forth a two-step process for addressing compliance with state emission standards during SMB. The first step consists of obtaining authorization by means of a permit application to make a future claim of SMB. The second step involves making a viable claim of SMB. For startup, this consists of showing that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such an event. For MB, this consists of showing that continued operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. Inherent in this showing is the obligation to show that operation and excess emissions occurred only to the extent necessary.

Midwest Generation sought SMB authorizations for certain units at the Powerton Station. The Illinois EPA reviewed these requests and, as appropriate, granted authorizations in the CAAPP permit to make claims of SMB. These authorizations do not equate to an "automatic exemption" from otherwise applicable state standards. These authorizations are fully consistent with long-standing practice in Illinois for permitting and enforcement. In particular, the nature of the coal-fired utility boilers is such that certain excess emissions may occur during SMB that a source cannot reasonably avoid or readily anticipate. However, the source may be held appropriately accountable for excess emissions that should not have occurred regardless of the authorizations in a CAAPP permit related to SMB. In summary, the provisions in the CAAPP permit related to SMB do not translate into any advance determinations related to actual occurrences of excess emissions. Rather, they provide a framework whereby Midwest Generation is provided with the ability to make a claim of SMB, with any such claim being subject to further review.

[159] The SIP Call does not simply mandate that current provisions for SSM in the subject SIPs be eliminated and that the current short-term emission standards in SIPs be made

This comment does not identify any deficiencies in the conditions of the permit that deal with SMB as compared to the relevant provisions of Illinois' current SIP that address SMB. The discussion in the Statement of Basis referred to by this comment, which addresses certain planned changes to the wording of various permit conditions, involves provisions related to control measures for material handling and processing operations.[160] The discussion does not address conditions of the permit that deal with SMB and the provisions for Illinois' current SIP for SMB. [161]

In addition, as already explained, the SIP call is not based on a quantitative evaluation by USEPA of the impacts on ambient air quality of extra emissions during SSM events. Rather, the SIP call is based on a reassessment of the language of the CAA by USEPA, as guided by various court decisions related to SSM events. Information has also not been provided to support the claim that the emissions of coal power plants associated with SSM events are significant. The study that has been cited to support this claim, *Gaming the System: How Off-the-Books Industrial Upset Emissions Cheat the Public Out of Clean Air,* does not address coal-fired power plants.[162]

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applicable at all times. Rather, the SIP Call requires that SIPs be revised so that they appropriately address SSM events. USEPA recognized that a number of different approaches may be possible and appropriate to address various types of emission units and their possible circumstances.

One possible approach recognized by the SIP Call is the adoption of "alternative emission limitations" or emission standards for SSM events. The adoption of such alternative limitations, as contemplated by the SIP Call, would be a task that would also be carried out through rulemaking. Accordingly, while it is correct that certain provisions of Illinois' SIP dealing with SMB events have now been found by USEPA to be inconsistent with the Clean Air Act, both the revisions to the current provisions and the transition to the new provisions must proceed through the rule of law.

[160] The discussion in the Statement of Basis referred to by this comment addresses Conditions 7.2.6(a)(i), 7.3.6(a)(i) and 7.4.6(a)(i). These conditions address the measures that are used for control of particulate matter emissions from coal handling operations, coal processing operations and fly ash handling operations.

[161] It should also be recognized that the challenge of permit conditions made by this comment does not fall within the scope of revisions made in this proceeding to resolve the appeal of the initial CAAPP permit. Effectively, this comment challenges the validity of certain conditions in the initial CAAPP permit that implemented Illinois rules for startups and malfunction/breakdown events. This proceeding is governed by the applicable requirements of Title V and Illinois' CAAPP program, which act to limit the scope of review to the revisions that would be made to the CAAPP permit.

[162] It is also noteworthy that applicable emission standards for boilers commonly address the rate of emissions of a pollutant relative to the heat input to the boiler, the concentration of a pollutant in the exhaust stream of the boiler or the steam or energy output from a boiler. These standards reflect regulatory determinations of emission rates that are achievable by various classes of boilers with appropriate design, operating practices and control devices. These emission standards only indirectly address the mass of emissions going to the atmosphere, in pounds/hour. The actual mass emission rate, in pounds/hour, at any time depends on the load or heat input to the boiler, as well as the relative emission rate, in pounds/million Btu heat input or ppm, at that time. If the load of a boiler is low during a period of time or an upset, the actual mass emission rate during may be lower than the typical mass emission rate even if the relative emission rate is higher than the typical rate. This also means that violations of emissions standards that are set for boilers based on considerations of emission control technology are not synonymous with elevated concentrations of pollutants in the atmosphere or violations ambient air quality standards.

2. **Comment Concerning the Illinois EPA's Failure to Meet the Work Plan:**

The Illinois EPA has failed to meet the deadlines it committed to in an agreement with USEPA. On September 5, 2014, Illinois EPA and USEPA Region 5 entered an agreement in part for the purpose of "significantly reduc[ing] the Clean Air Act Permit Program permit backlog." Illinois Program Work Plan for Calendar Years 2014-2016, Agreement Between Illinois Environmental Protection Agency and Region 5, U.S. Environmental Protection Agency (Sept. 5 2014) ("Agreement" or "Work Plan"). The agreed Work Plan covers the years of 2014-2016 and contains Illinois EPA commitments relating to the Clean Air Act Title V permitting program. The Agreement was signed by Illinois EPA Director Lisa Bonnett and the Administrator of USEPA Region 5 at that time, Susan Hedman.

Schedule A of the Agreement lays out the timing by which Illinois EPA agreed to issue CAAPP permits for coal power plants in Illinois. The schedule includes deadlines by which Illinois EPA agreed to issue for each plant both a permit to resolve the permit appeal pending before the IPCB and also a reopened permit for the purpose of updating the permit with the requirements that became applicable while the appeal was pending. The Illinois EPA has generally been issuing the permits to resolve these appeals as significant modifications. Sixteen coal plants are covered in Schedule A although the number of permits that the Illinois EPA now has to actually issue has been reduced by the announced retirement of several plants.

Nonetheless, even with the permitting burden reduced by plant retirements, the Illinois EPA is far from meeting the schedule that it committed to in this Agreement. When this Agreement was signed, the permits to resolve the appeals for CWLP and Coffeen had already been issued. All that remained for those two plants was issuance of reopened permits. The Illinois EPA committed to have those completed by September 30, 2015. Nonetheless, reopened permits still have not been issued for either of these plants.

In addition, the Illinois EPA agreed to issue modified CAAPP permits to resolve all the remaining appeals by September 30, 2015 at the latest. Nevertheless, as of December 2016, the Illinois EPA has only issued a total of six such permits (Powerton, Kincaid, Coffeen, Waukegan, CWLP and Newton). The Illinois EPA also agreed to issue a number of additional reopened permits but as of December 2016, no reopened permits have been issued.

In sum, Illinois EPA is nowhere close to meeting its commitments under the agreed Work Plan with USEPA. Illinois EPA's abject failure to meet deadlines that the agency itself has agreed to continues to deprive the community of the protections offered by updated and final Title V permits containing all applicable requirements.

Response:
As observed by this comment, the schedule in this 2014-2016 Work Plan for processing CAAPP permits for Illinois' coal-fired power plants was not realistic. The Illinois EPA is now working with USEPA on a more realistic approach for processing these CAAPP permits.

This approach narrowly focuses on the timing of the next steps that the Illinois EPA will take to process the CAAPP permits for the particular power plants that are currently being worked on.[163]

3. **Comment Concerning Pollution Safeguards under the Clean Air Act:**

The revised CAAPP permit should require Powerton to comply with ALL pollution safeguards under the Clean Air Act.

Response:
The revised CAAPP permit issued for Powerton addresses the regulatory requirements under the Clean Air Act that apply to emission units at the plant. The revised CAAPP permit also includes appropriate requirements for Periodic Monitoring. As such the revised CAAPP permit includes the "safeguards" required by the Clean Air Act.

In this regard, as a general matter, CAAPP permits are developed to address all applicable requirements under the Clean Air Act that apply to the emissions of the units at a source, including emission standards and other requirement limiting emissions under applicable federal and state regulations and construction permits. CAAPP permits also require sources to carry out Periodic Monitoring (i.e., work practices, testing, emissions and operational monitoring, inspections, recordkeeping and reporting) as appropriate to address compliance with applicable emissions standards and limits and other applicable restrictions related to emissions.[164] **The Illinois EPA has carefully considered comments on specific provisions in the CAAPP permit that would be added or revised as part of this reopening proceeding, as discussed in this Responsiveness Summary. As enhancements to those provisions have been justified by comments, changes have been made in the revised permit that has been issued.**

4. **Comment Concerning the Opacity of Emissions from the Powerton Stack:**

I brought some photographs to submit at tonight's hearing that show the stack at the Powerton Station. Two are from Sunday morning on the way to church and five are from sunset last night. I noticed before the sunset last night a little bit of darkness in the air looking over to that area from downtown Pekin. The reason I looked over there is because I was starting to have the tightness in my chest again.

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[163] **The Illinois EPA has now issued six CAAPP permits for coal-fired power plants in Illinois to resolve the appeals of the initial permits (Coffeen, CWLP, Kinkaid, Newton, Powerton and Waukegan). Reopened CAAPP permits have now also been issued for four of these plants (Coffeen, Kincaid, Newton and now Powerton). A "combined" permit proceeding has also been completed for the Joppa power plant to both settle the appeal and bring the CAAPP permit up-to-date.**

[164] **To the extent that Monitoring requirements were not established when the emission control requirements were adopted or the existing monitoring requirements are now found to be inadequate, additional Monitoring requirements are set in the CAAPP permit.**

Response:

These photographs show a visible plume from the stack with some opacity before the plume disperses. To quantify the level of opacity that was present, the Illinois EPA reviewed data from the continuous opacity monitoring system on the stack. This review showed that the source was in compliance. The measured opacity was well below 30 percent, 6-minute average, the limit set by 35 IAC 212.123.[165, 166]

It is also noteworthy that the photographs show good dispersion of the plume. The plume rises upward from the stack as it mixes with and is dispersed in the atmosphere.

Incidentally, in the photographs taken on Monday around sunset, the setting sun appears to be in front and to the right of the point at which the photographs were taken. In certain photographs, this may have made the plume more distinctive. For a human observer to properly determine opacity when the sun is present, the sun should be at the observer's back. If the sun is not behind the observer, the visual contrast between the sunlit, open sky and the plume increases. This makes the plume more distinctive so that the level of opacity in the plume perceived by the observer tends to be greater than is actually present.

5. **Comments on the Format and Content of the CAAPP Permit:**

The format of this permit is not conducive to the Illinois EPA doing effective work; it is also not conducive to the public having a meaningful review of draft permits. The burden should be on the sources to put together something that is more meaningful, that is more understandable. I think it is very difficult for the Illinois EPA to get its job done with this. I found it really, really difficult to wade through and to understand all the parts. The Illinois EPA should demand better. Please make an effort to address some of these problems and do as much as can be done within the purview of these permits.
***
As a concerned member of the public, I tried reading through the draft of the revised permit. It was very difficult, confusing and overwhelming for me. After trying to make sense of it, I just feel like there are so many things that should be more focused on.

Response:

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[165] On Sunday, November 13, 2016, the average opacity for the entire day of was 8.48 percent, 6-minute average. The opacity was never greater than 15 percent, 6-minute average (half of the applicable standard).

On Monday, November 14, 2016, the average opacity for the entire day was 8.64 percent, 6-minute average. There were four 6-minute periods in which the opacity was greater than 15 percent, with the maximum opacity being 23 percent, 6-minute average.

[166] The boilers at Powerton consistently comply with the applicable opacity standard. For example, in its quarterly report for the first quarter of 2017, Midwest Generation reported there were no incidents of excess opacity during the reporting period.

The subject matter of the CAAPP permit for the Powerton Station, including the emissions monitoring, testing and compliance procedures, is inherently complicated. This is largely due to the detailed nature and broad scope of the applicable emission standards that apply to the various emission units at this source. The Illinois EPA continues to make efforts to "simplify" permits, both in structure and language, so that they may be more readily understood by the public and would welcome suggestions on how to better accomplish this while still fulfilling the legal requirements for a CAAPP permit. In this regard, it should be recognized that the purpose of the CAAPP permit program is to compile existing Clean Air Act-related requirements that apply to a subject source into a single document, accompanied by appropriate requirements for Periodic Monitoring. The processing of an application for CAAPP permit does not entail an evaluation or assessments of impacts of the emissions of the source. Rather, the purpose of CAAPP permits is to facilitate compliance with applicable Clean Air Act requirements.[167]

6. <u>Comments Concerning Averaging of Emission Data:</u>

It is my understanding that the draft permit has a provision whereby emissions will be monitored and recorded in such a manner that something that I would describe as a moving average would be used. Moving averages are good for getting trends when one wants to see what is happening over a long period of time and wants to know is it generally going up or going down. However, what moving averages also do is removes spikes from the data. If one is using a moving average, one misses out on critical data because the spikes are gone. In this case, the spikes are very important information. They tell whether there is an exceedance in a pollutant emitted from this plant. So this data needs to be known, this data needs to be accurately recorded and reported, completely, not averaged out. The permit should require reporting of emission data that has not gone through an averaging process, including reporting of data for SO_2 and mercury emissions and opacity that is not averaged out.
***
The results of the monitoring should not be averaged out. If emission data is averaged, then one does not know what is going on.

<u>Response:</u>
Notwithstanding the claims made in these comments, "complete emission information" including so-called emissions spikes would not provide any information about emissions exceedance at Powerton and its compliance status. To address whether there has been an emissions exceedance, i.e., an exceedance of an applicable emission standard, emission data must be compiled in the same terms as the

[167] **It should be noted that the Illinois EPA does not find the format of the CAAPP permit for Powerton an impediment to its work overseeing Powerton's compliance with applicable emission-related requirements. For each category of emission units at the source, the CAAPP permit provides the emission standards and limits that apply, accompanied by other regulatory requirements and requirements for Periodic Monitoring.**

applicable emission standard for which compliance is being addressed. For 35 IAC 214.603(e), the new SO_2 emission standards for the coal boilers at Powerton, which apply as an average of 30 operating days, rolled daily, this means that SO_2 emission data must be compiled over periods of 30 consecutive operating days. Data compiled over a shorter period would not address whether there have been exceedances of these new standards. As already discussed, while the underlying impetus for these new standards is SO_2 air quality on an hour-by-hour basis, these standards were developed to indirectly restrict hourly SO_2 emissions with requirements that apply on a 30-day average basis.

The mercury emissions standards that apply to the boilers also apply over extended periods of time. The standards for mercury emissions under the USEPA' Mercury and Air Toxic Standards (MATS), 40 CFR 63 Subpart UUUUU, apply either over 30 operating or 90 operating days when compliance is determined by monitoring.[168] The standards for mercury emissions under Illinois' rules applies over a 12-month rolling average. These time periods are reasonable as the objective of both these rules is to require appropriate measures to reduce the amount of mercury that is released into the atmosphere when coal is burned, thereby reducing the amount of mercury that enters the food chain.

The applicable state standard that applies to the boilers for opacity, 35 IAC 212.123(a), generally applies as a 6-minute average. Accordingly, exceedances of this standard must be reported on a 6-minute average basis. Reporting of opacity data on less than a 6-minute average would not provide any information relevant to compliance with this standard.

7. <u>Comment Concerning Reporting of Monitored Data</u>

The complete monitoring data should be reported so that the public can determine if the permit provisions are being met. Environmental organizations were able to actually use such data to go after another source, the other coal power plant in the Pekin area, under the citizen suit provisions of the Clean Air Act. This would not have been possible unless that data was collected properly and there was access to it.

<u>Response:</u>
For purposes of determining whether a source is meeting applicable standards, reporting of exceedances by the source is generally sufficient. It is not necessary for all the data collected by the source to routinely be reported to the permitting authority. It is appropriate that the burden for properly conducting monitoring, compiling the recorded data, and assessing compliance be placed on the source.

In this regard, the enforcement action cited by this comment is based on reports for opacity exceedances submitted by the source. This action was not initiated based the complete opacity data

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[168] 40 CFR 63.10021 also provides that, rather than conduct monitoring for emissions of mercury, a source may demonstrate compliance with the mercury emission standards under the MATS rule by quarterly emission testing.

collected by the opacity monitoring systems, including data for the vast majority of the time when the source complied with the applicable state standards for the opacity of emissions.[169]

8. **Comments Concerning Stringency of Emission Standards and Requirements for Control of Emissions:**

I ask the Illinois EPA to make the strongest rules for this new permit.
***
The Illinois EPA must issue a revised CAAPP permit for Powerton that results in it emitting the least amount of pollutants as possible with current and future state-of-the-art pollution control technology. People deserve nothing less than this. This technology must be monitored in a high-quality manner.
***
The Illinois EPA needs to ensure that all available state-of-the-art emission controls are installed and used properly. Opacity and emissions of SO_2 and mercury need to be monitored properly.
***
I am concerned that all state-of-the-art emission controls need to be installed and used properly, specifically ensuring that the opacity, the SO_2 and the mercury emissions are monitored properly.

Response:
CAAPP permits are a means to facilitate compliance with the adopted emission standards and limits and emission control requirements that apply to sources. CAAPP permits accomplish this by compiling the adopted requirements that apply to a source in a single document, a CAAPP permit. This "listing" of emission-related requirements makes clear the requirement that the source must comply with. CAAPP permits also accomplish this by compiling the compliance procedures that accompany these substantive emission-related requirements into the permit. For this purpose, the CAAPP permit may supplement the established compliance procedures, if the established procedures are determined to be inadequate, with additional work practice requirements and requirements for testing, monitoring, recordkeeping and reporting. Accordingly, CAAPP permits serve to identify the existing emission-related requirements that apply to sources and the actions that sources must take to address compliance with those requirements.

However, CAAPP permits are not, as requested by these comments, a means to establish new, more stringent emission standards and limits as these comments seek. This is something that must be accomplished by adoption of new laws and regulations, on either the state or national level, as has occurred. In this regard, the emission standards and requirements that now apply to the coal boilers at Powerton do require effective use of the emission control technology that is installed on these boilers. In particular, the Mercury and Air Toxic Standards (MATS), 40 CFR 63 Subpart UUUUU, sets emissions standards and requirements that reflect the use of Maximum Achievable Control Technology (MACT) for emissions of hazardous air pollutants (HAPs). As these rules address certain metal HAPs that are emitted as particulates, use of MACT is required for emissions of

[169] **This lawsuit by a coalition of environmental advocacy organizations against the Edwards plant has not yet been fully resolved.**

particulate matter. In addition, SO_2 and NOx emissions are subject to state emission standards pursuant to 35 IAC Part 225 (i.e., the Combined Pollutant Standards) that require effective control of SO_2 and NOx emissions.[170] To comply with the standard for SO_2, Midwest Generation has recently begun using dry sorbent injection systems on the boilers to reduce SO_2 emissions. These systems must be operated so Powerton complies with 35 IAC 214.603(e), the new standards for SO_2 emissions that specifically apply to Powerton. These new emissions standards are accompanied by regulatory requirements for monitoring of SO_2 emissions, recordkeeping and reporting to address compliance with these standards (35 IAC 214.604 and 214.605).

9. **Comments Regarding Reporting of Spikes in Emissions:**

Spikes in emissions must be reported and not averaged out. These spikes are expected to cause increases in health problems for residents. So people should be able to know about emissions spikes so that they can identify them and people can then say, I'm having these problems and these pollutants are going up. Those people must be able to identify what and when all this air pollution is being emitted.
***
It would make more sense to do some form of real-time emission reporting, especially if it was specific and listed exactly what emissions were released at what percentages.
***
Real-time emissions reporting is especially important. I have more problems on days when I think maybe these things are happening. Maybe the emissions, the startups, the malfunctions, my body responds to what is happening now, not what is happening over an average of 30 days.
***
The emissions data that Powerton reports must be actual data, not averaged data. The data must be placed on a website to provide the public with the ability to easily read and find meaningful data so that they know what is happening and can then take the steps to minimize the pollution, and why are these things happening.
***
If emission data is averaged out, then one does not know what is going on. People may feel it in their lungs but if the emission data is not reported properly, then they cannot go back and see what happened with emissions. If people know why there was a spike, then they can ask the plant to take appropriate action to prevent future spikes. Again, that the data is recorded and reported and it is not doctored at all. I've been calling it real-time reporting. People want to know what is being emitted just like anyone would. People want to be able to turn on their computer or TV and find out what the weather is. People also want to know what they are breathing in the same manner and that those spikes in the air quality are only

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[170] **While the Combined Pollutants Standards set limits for SO_2 and NOx emissions that apply "system-wide" to the coal power plants in Illinois that are operated by Midwest Generation, the levels at which the SO_2 limit has required additional control of SO2 emissions at both the Powerton and Waukegan plants. It has also required careful operation at each plant to lower NOx emissions. As such, this rule has achieved its purpose of reducing aggregate emissions of SO_2 and NOx from the subject plants.**

accurately seen when the emission reporting is done, in a real-time manner and not averaged out.

Response:

These comments appear to reflect a fundamental misunderstanding about the nature of most of the emission standards that apply to the boilers at Powerton. These emission standards are generally set at levels that reflect the levels of emissions that should reasonably never be exceeded by these boilers when appropriate measures are used to control their emissions.[171] The emission standards were not "back-calculated" from risk analyses that determined the levels of emissions from the boilers at which adverse health impacts might be expected to occur. This means that a violation of an emission standard would not directly correlate to a violation of a NAAQS set to protect public health, with possible adverse health impacts for the public. Rather, a violation of an emission standard by the boilers would only reflect a violation of such standard, with emissions having been higher than they should have been. One consequence of this approach in the rulemaking proceedings that set emission standards is that ambient air quality is generally aggressively protected, with actual air quality normally being well below the levels of the NAAQS. Another consequence is that one cannot presume that a NAAQS has been violated with impacts for public health if an emission standard is exceeded by a source.[172]

Accordingly, as individuals have concern for real-time data related to air pollution, such concern is more appropriately directed at real-time data for ambient air quality. In this regard, real-time or current data for monitored ambient air quality across the country, including central Illinois, is available from USEPA's AirNow internet site.[173] Peoria is also one of the sectors in Illinois for which the Illinois EPA routinely computes Air Quality Index data

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[171] As discussed, many state emissions standards, including the older emission standards that apply to Powerton, were develop to reflect the effectiveness of control measures when emission units are operating normally. These standards may not reflect the emission rate that can be reliably achieved for a pollutant during the less than ideal conditions that are present during startup of an emission unit. The rulemaking proceedings for more recent emission standards address variability in emissions. This has often been done with emission standards that have extended compliance periods. This has not prevented these newer emission standards from achieving the reductions in emissions that were the objective of those rulemakings.

[172] In some respects, the new SO_2 emission standard for Powerton at 35 IAC 214.603(e)(1) is an exception to this general discussion. This standard was adopted to specifically address the NAAQS for 1-hour SO_2. However, an exceedance of this new emission standard would also not necessarily result in this NAAQS being violated. Whether an emissions exceedance would result in ambient air quality actually exceeding this NAAQS would depend on the weather since wind direction and speed and the temperature profile of the atmosphere determine dispersion of emission and the location and magnitude of maximum ambient concentration of SO_2. The highest ambient concentrations are also associated with certain weather conditions that are not conducive with dispersion of emissions upward into the atmosphere. If the weather is such that two or more sources contribute to maximum ambient concentrations of SO_2 on an hourly average, whether the NAAQS is exceeded could also depend on the SO_2 emission rate(s) of sources other than Powerton.

[173] The AirNow System provides information on ambient level of ozone and particulate in different areas. With the effectiveness of new SO_2 emission standards for sources in the Pekin area beginning January 1, 2017, these should be the only criteria pollutants of interest because levels of ambient SO_2 monitored in the area have been low. https://www.airnow.gov/.

to provide the public with a simple assessment of the current air quality and the air quality that is forecast for the next day. This data is intended to enable people, especially individuals who are sensitive or very sensitive to air pollution, to appropriately adjust their daily activities.[174]

10. **Comment Concerning Short-Term Exposures to Elevated Levels of SO_2**

Short term exposures to elevated concentrations of SO_2 can cause harm to vulnerable and sensitive people. I am very upset with 30-day averaging for hourly SO_2 emissions. This will count down spikes in SO_2 emissions and not provide for assessment of spike data by the Illinois EPA. The Illinois EPA needs to develop a way to get that data, to analyze it, and to have a series of discreet spikes trigger some sort of corrective action.

Response:

The Illinois EPA does have a mechanism to address the effect of variation in Powerton's SO_2 emissions on air quality. The ambient air monitoring station in Pekin measures SO_2 concentrations in the air on an hour-by-hour basis. The data collected at this monitoring station since January 1, 2017, when the new SO_2 emission standards for Powerton and certain other sources in the Pekin area took effect, shows that the area is now meeting the NAAQS for 1-hour SO_2. The air quality reports that the Illinois EPA prepares annually provide information for the quality of the ambient air as measured at this monitoring station, as well as other ambient air monitoring stations operated by the Illinois EPA.[175]

In addition, Powerton is required to keep records of its SO_2 emissions on an hour-by-hour basis. This is inherent in the new emissions standards as they address the average hourly SO_2 emissions during each 30-day period and the number of hours in each such period in which the hourly SO_2 emission rate exceeds 6,000 pounds. Accordingly, if a high hourly SO_2 concentration is monitored in the ambient air, it will be possible to review Powerton's SO_2 emissions during that hour to determine their role, if any, in the high ambient concentrations of SO_2.

Finally, as the role of Powerton on SO_2 air quality in the future will be able to be addressed using actual data, it would have been unreasonable in the revised CAAPP permit for Powerton to establish a program for corrective actions that is entirely speculative in nature. Moreover, as the new SO_2 emission standards for Powerton were established in rulemaking by the Board, it would have been improper for the Illinois EPA to establish such a program for corrective actions in this permit proceeding.

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[174] **For more information on the Air Quality Index program refer to AirNow or Section 3 of one of the Annual Air Quality Reports issued by the Illinois EPA. http://www.epa.illinois.gov/topics/air-quality/air-quality-reports/index. Other information about current air quality is also available on the Illinois EPA webpage. http://www.epa.illinois.gov/topics/air-quality/outdoor-air/index**

[175] **The Illinois EPA's Annual Air Quality Reports are available on the Internet: http://www.epa.illinois.gov/topics/air-quality/air-quality-reports/index**

The detailed data collected by this monitoring station would need to be obtained from the Illinois EPA with a request under the Freedom of Information Act.

11. Comments Concerning Self-Monitoring and Self-Reporting

I do not understand why sources are allowed to self-report. I would like to know how sources are kept honest.
***
My dream would be to have an independent, third party monitor the emissions and opacity because I do not think that sources can do this responsibly.
***
The public does not trust bigger corporations, especially with the way things are going in our country right now. I'm not saying all corporations are bad, but …

Response:
Most air pollution control laws and rules require and depend upon testing, monitoring and reporting by the regulated sources rather than by government contractors. It is easily within the ability of Powerton to properly carry out these activities and the Illinois EPA has no reason to believe that they are not being carried out properly.

To maintain truth and honesty of the data that sources must collect and report, failure of a source to truthfully and honestly collect and report required data is a criminal violation. As a criminal violation, the source and the responsible employees are potentially subject to monetary fines and prison sentences for such failures. Sources that take adverse actions against employees to prevent or interfere with them from accurately reporting data or retaliate against employees who honestly report data may also be subject to penalties.

Because sources are held responsible for collecting and reporting of data, permits such as this CAAPP permit can impose extensive monitoring, reporting, recordkeeping and testing requirements on the source to assure that the underlying applicable requirements are being met. Such requirements are possible because the source is responsible for implementing the requirements, maintaining the personnel, equipment and systems to satisfy those requirements. These requirements also extend to the staff that manage and operate equipment on a day-to-day basis and are most familiar and knowledgeable about equipment.

The Illinois EPA and USEPA, Region V also do conduct periodic on-site inspections of CAAPP sources and other sources in Illinois to review the operation of emission units and the practices used by sources to collect required data and demonstrate compliance. These inspections also serve to facilitate truthful and honest collection and reporting of data by sources and their employees.

12. **Comment Concerning Access to Data from Monitoring Station in Pekin**

I have been impressed with how hard it is to get information. The Illinois EPA has one ambient monitoring station in the Pekin area, which is located at Pekin's Fire Station 3. Getting the information collected by that monitor has been a challenge. More transparency is needed for the public.

Response:
This ambient monitoring station is operated by the Illinois EPA. The air quality data collected by this monitoring station must be obtained from the Illinois EPA. To ensure the accuracy of the equipment that is used to collect this data, access to this equipment is restricted. The personnel at this fire station do not have routine access to this equipment or to the data that is collected.[176]

13. **Comments Concerning Asthma:**

I am a mother of a chronic asthmatic daughter. I have watched my daughter suffer her whole life with chronic asthma. Now I am experiencing asthma myself. My asthma attacks have been increasing quite a bit in severity lately. I had to pull over, as I am not used to being an asthmatic myself. I am taking the maximum amount of puffs with my inhaler and I am struggling with that amount.
***
I grew up on the near north side of Peoria. I knew nothing about asthma, never knew anyone who had asthma. But my sister and her grandchildren live right over on the other side of the lake and at age 62 she has been diagnosed with asthma. Her four-year old grandchild almost died at Christmas of an asthma attack. I am deeply concerned about the regulation of these gases. Please do something about this air.
***
I have been a resident in this area for more than 30 years. I am often in the Illinois River Valley for recreation, so I find myself impacted substantially by the emissions from Powerton as well as the other power plants in this area.
***
I have always been a runner. As an adult, I went away from this area for a time, continued to run and engage in outdoor activities. I did not realize the severity of the air quality here until I moved away and experienced far less problems with my breathing when outdoors, hiking and running. Then moving back, the same things are happening again, but now in my adult life, just some wheezing and congestion that happens even when I am not being active. I have lived in different parts of Pekin. I was on the north side for a while and I felt that the issues were far less severe. Now I am on the southwest side, closer to Powerton and other plants and I definitely notice a difference. Some other issues that I see as I travel around or come in to Pekin from Route 29, I can see the haze that rests over the city. It makes me wonder, how are children being affected by this? I am raising my children here and it concerns me a lot. I am a coach at the high school. I have students who are highly asthmatic and run

[176] **The Illinois EPA extends its thanks to the Pekin Fire Department and its personnel for allowing the Illinois EPA to operate an ambient air monitoring station in one of its facilities.**

with inhalers. Research indicates that asthma is the result of inflammation.

Response:
Asthma is a respiratory disease affecting a small but significant percentage of the population. While poor air quality may have a role in triggering asthmatic attacks, it is questionable whether it is the cause of asthma. Poor air quality is also only one of many triggers for asthma. As reflected by these comments, individuals who have asthma need to be under a doctor's care. Doctors often prescribe "fast-acting" inhalers so individuals may quickly relieve certain acute asthma symptoms subject to further medical treatment as directed. Other medications delivered by inhalers may also be prescribed to prevent and reduce inflammation of airways and chronic symptoms of asthma. Certain oral medications may also be used in the treatment of asthma. Inhalers are likely more common now than many years ago because of better diagnosis and treatment of asthma, accompanied by better medications to treat asthma.

Additionally, poor air quality is likely only a small part of, and, if anything, a complication to an asthma attack that was caused by some other larger trigger such as pollen, dust or smoke. To quantitatively link asthma and other respiratory illnesses to poor air quality and then to even go further and link that poor air quality to a specific source is beyond the requirements of anything that this permit would be allowed to implement or curtail.

14. Comments Concerning Asthma and Other Health Effects:

I have lived in Pekin my entire life. I would love to stay here but I am not sure now. I would like to have children some day, but concern over air pollution makes me not want to be pregnant here or raise children here. But I never realized how much the air pollution affected me because this is all I knew. My sister and I live on Lake Arlann and can see the power plants across the lake. My sister is affected by rain only here in Illinois. She gets blotchy. The doctor said it was the pollution that is brought down in the rain. When she swims in the lakes here in Illinois or even the river, she just breaks out. She has been to other states where she is never affected. I never realized how much it did affect me until my boyfriend, who is only 18, was recently diagnosed with cancer. He lives down by the plant. I did not really understand how that could happen. I did some research and cancer can have a lot to do with pollution.
***
The body's physiological response to inflammation may lead to or worsen other health problems, including heart disease. This is really important to me and it is important for my students to see what action is being taken here in Pekin to improve air quality. I feel that it has come a long way but I feel that it still has a long way to go. I hope to see continuing improvements.
***
I work on behalf of people living with lung disease trying to make the air cleaner, especially for the more than one million people living with lung disease in Illinois. Just in Peoria and Tazewell Counties alone there are nearly 40,000 adults and children living with asthma. I also do not want the other 11 million plus people in

Illinois to develop lung disease or to have the quality of their life diminished by air pollution. I can talk about Barbara who has trouble getting around because of COPD, or Kathleen who had a lung transplant two years ago and fears going outside on high air pollution days. I can talk about six-year old Carter who struggles with asthma and has been taken to the emergency room several times because of his asthma. There are many others. There are also many people who have passed away from lung disease. Based on the wealth of medical research, it is known that air pollution sickens people and people die from air pollution. Even with the recent installation of some additional emission controls, the Powerton is still one of the largest sources of air pollution in the area.
***
I value clean air. The Illinois EPA has put untold hours into this permit and it is really appreciated. But I think this permit could be better. As a member of the public, I am asking the Illinois EPA to make it stronger. The public need this permit to be stronger. The people in the Illinois River Valley all suffer from the cumulative air pollution here. There are three coal power plants, including Powerton. There are numerous industrial plants. Work on this permit is essential for people here. I do not want to see any more family members suffer through what I have already seen. I know that there are a lot of other factors to that, but air quality and concerns for this plant's emissions are huge as is it is the largest polluter in the Pekin and Peoria areas. I want the strictest permit possible.
***
I know people who have lived in this area their whole life, had family here, and they do have an abnormal amount of cancer and asthma. There just seems to be a lot of issues with this area. I just think that there are a lot of reasons to reevaluate it. I hope the Illinois EPA does and hears the cries of the people.
***
The Illinois EPA has the world on its shoulders. It has the lives of many people at stake. I think everyone knows the benefits that clean air would bring to their family, friends and neighbors.
***
Clean air is very important to the people who live here. At tonight’s hearing, I stand with the community members that have spoken. Working with these residents always reminds me the gravity of this situation. I am not just someone who works for the Sierra Club. My life has been touched by pollution in my dad's hometown of Smelterville, Idaho. I can feel the pollution in the air every single time I drive into Pekin. I feel the sting in my sinuses and the scent in the air. I know that when Robin and I go out walking, I can hear her start wheezing. I know when I hang out with Julia that she is going to be coughing because she is having a hard time breathing. These are real people that live here. People living on both sides of river are impacted by the pollution. These hearings remind people that there are other people who are also dealing with the same thing day after day, and this is the one opportunity because these permits do not get opened often. I just want to ask for really special consideration on this operating permit for the Powerton plant. This is an opportunity to make sure that this CAAPP permit is as protective as possible, as all permits should be. People live in close proximity to the Powerton plant here, but also to the Edwards, Havana and Duck Creek power plants. All these other

power plants should also have strong, up-to-date permits as well as the rest of the industrial polluters in the area.
***
I am 40 years old and have lived in Tazewell County my whole life. I moved to Pekin last December and I have been nothing but sick since. I originally moved to 9th Street. I went to my doctor and thought it was the house. I moved to 1st Street in May but it was not the house. For some of my symptoms, crippling body pain and muscle knots, I was taking painkillers and going to physical therapy. Then I started looking into things and found out that the Pekin area is a nonattainment area for SO_2. SO_2 causes respiratory inflammation. And then on top of that, I can't breathe. I have gone to allergists and pulmonary specialists. I am allergic to dust mites. My house is always spotless. I run air purifiers and have not opened my windows since May. I am allergic to dogs and white elm trees. I am a horticulturist and the trees and plants around here evidence impacts of SO_2, ammonia and ammonia sulfate. People cannot directly get the data from the ambient air monitoring station on Derby Street on the level of SO_2 in the air but I do not need to know the levels, they are bad. The extra costs that I incur for living here in Pekin, allergy medication, contacts that dry out, creams for spots on my skin, air filters…. I could go on and on. If it was just me, I could move, but there are kids here, and so I can't. I will not allow my kids to come here and visit me. I know that Midwest Generation owns Powerton. So could the Illinois EPA please give them the word that I am here.
***
This area is on the Illinois River. There has been a documentary, *Living Downstream*, released in 2010, that discusses the link between cancer and chemicals in the environment.
***
I am here to offer my own personal perspective. Have you ever blown on the embers of a campfire and watched the flames leap up? Have you ever had the satisfaction of blowing out all the candles on your birthday cake? Have you ever run up a flight of stairs? These are simple things for most people, but for those with certain respiratory conditions, they become a challenge. Like many other people who have these kinds of conditions, I look okay. I do just fine sitting or walking leisurely down a sidewalk. But many things that other people take for granted have become impossible for me. I have had the good fortune of being able to do a certain amount of traveling. One thing I always notice about a place I am visiting is how well can I breathe. In many places I am able to breathe much better. I can engage in more activity, I feel better and think better. When I drive back home, I can see the brown band of pollution looming on the horizon. When I get back home, I can tell the difference, especially on days when air quality is low or when I suspect air quality is low. I can feel my body struggling to get enough air. Sometimes I turn to my husband and say, why are we living here? Will the Illinois EPA please take all the steps that it can to keep the air in the Pekin area as clean as possible.
***
Pekin has a neighborhood that people refer to as cancer alley. It is on the south side of Pekin near Powerton.
***
The communities in the area haves suffered from poor air quality not just for a couple of years but since these plants were built and

probably even before these plants were built dating back to the earliest coal plants that have plagued the Illinois River Valley.

Response:
The health impacts of coal-fired electric power plants have been the subject of considerable scientific scrutiny. These plants do emit pollutants that in sufficiently high concentrations can have health effects, particularly for people suffering from asthma, chronic respiratory diseases or heart disease. Scientific research continues to identify adverse health effects from air pollution. Some studies have found that emissions from coal-fired power plants do contribute to these effects at levels that can be predicted mathematically. Such studies do not demonstrate that emissions from the Powerton plant are emitted in such concentrations as to directly cause health effects to nearby residents. Moreover, these studies do not demonstrate that power plants like the Powerton Station pose a significant risk to the health of specific individuals. Indeed, having an adequate, reliable and affordable supply of electricity is also essential to modern society, and to the health and well-being of the public. Conceivably, the purpose of these studies has been to advance public policy in the direction of reducing the emissions and associated health impacts from existing power plants, many of which are over 50 years old.[177]

As already discussed, the Powerton Station is subject to many new rules which impose stricter emission limits. The control systems on the coal-fired boilers for particulate and SO_2 emissions have also recently been upgraded.

15. Comment Concerning Data for Impacts of Emissions on Public Health:

While Powerton is in Tazewell County, its emissions impact all the surrounding counties. The Powerton plant is one of the largest sources of toxic pollution, such as particulates, SO_2, NOx and mercury, into the area's air. The health of the area's communities is negatively impacted by these emissions. In both Peoria and Tazewell Counties chronic lower respiratory diseases are the third leading cause of death. The death rate for chronic lower respiratory deaths in Tazewell County is 58.5 per 100,000 and 55.8 in Peoria County, compared to the State of Illinois at 41.9. Peoria and Tazewell Counties show an almost 40 percent higher death rate than the state as a whole for this lower respiratory disease. In 2013 in Peoria County the non-white asthma rate was 22.2 percent and increased to 36.3 percent for those with incomes below $15,000. The health and financial costs for those suffering from asthma is substantial. It results in the asthma accrued hospitalization rate for Peoria being 31.0 per 100,000 population. Research in California reported in the American Public Health Association nation's health in 2015 reports that children who grew up breathing cleaner air also developed stronger lungs. The study found that gains in lung function paralleled with improving air quality. The very growth and vitality of our children is what is at stake here. In addition to causing respiratory problems, air pollution is also associated with

[177] **Recommendations from these studies include requests to legislatively impose more stringent emission limits on coal-fired power plant and require existing coal-fired power plants to be upgraded with more modern emission control technology.**

higher risks of stroke. Exposure to air pollution from fine particulate matter was also associated with higher risk of anxiety. Air pollution, as associated with coal-fired plants like Powerton, makes people sick, causes death, and keeps children from developing normal lung function.

Response:
As observed by this comment, numerous scientific studies show that air pollution has a variety adverse impacts on human health, including impacts related to respiratory diseases and other diseases and aspects of human health. Medical statistics of the type cited by this comment are examples of the type of information, that, with appropriate analysis,[178] is used by USEPA when adopting or revising NAAQS so that NAAQS are set at levels that protect against adverse impacts for air pollution.

16. Comment Concerning a Health Impact Assessment:

Prior to issuing a revised permit, the Illinois EPA should have the Illinois Department of Public Health conduct a health impact assessment of the expected pollution from Powerton that the permit would allow. The Illinois EPA should submit this health impact assessment to the public for comment. The public deserves complete transparency of expected negative health impacts from Powerton, including health impacts and costs, impacts on vulnerable populations, et cetera, and why these are justified to be allowed. The Illinois EPA should be part of the solution to improving the health of area residents by issuing a permit to Powerton that will result in significantly improved air quality and reduced pollution from the plant. Is there any opportunity for health impact assessments? Does anybody look at the long-term costs of pollution? I mean, we hear it here subjectively, but why don't we have a way to quantify? So if the permit allows 6,000 pounds of SO_2 emissions per hour, what is the impact on residents? That is what I am asking for and what I think the public deserves to have.

It is like the impact after the fact. The real health impacts on the people who live in this area are never assessed even though they are allowed by the permit. There are three coal power plants in the area and other sources. Areas would have different results because the sources in areas are different and emissions are dispersed differently. This should all be looked prospectively to determine

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[178] **When considering medical statistics for health effects, analysis should be conducted to reasonably confirm the extent to which effects are caused by the levels of pollutant(s) in the air and not by other factors. For example, respiratory diseases may have many causes, including work place exposure to pollutants or respiratory irritants, smoking, allergic sensitivity and bacterial and viral infections, as well as ambient exposure to air pollution.**

In addition, when assigning the responsibility for the levels of pollutants in the ambient air in an area to different sources, it is appropriate for analysis to be conducted to determine the contribution of different sources. This is because their contributions will depend on the location of the sources and the heights of their stacks and other factors that have a role in dispersion of emissions. For example, when the Illinois EPA developed its attainment demonstration for the NAAQS for 1-hour SO_2, conducted such and analysis and the Board adopted standards for not only the SO2 emission of Powerton but also the emissions of the E. D. Edwards power plant and Aventine (now Pacific Ethanol).

what are the potential health impacts of the emissions from these sources on people living in the area.

Response:
Health impacts of pollutants are considered by the USEPA in its development and adoption of NAAQS. The primary NAAQS are designed to protect human health, with an adequate margin of safety, including the health of sensitive populations such as children, the elderly and individuals suffering from respiratory diseases. As needed to come into compliance with the NAAQS for 1-hour SO_2 in the Pekin Area,[179] the Board has adopted new SO_2 emission standards for Powerton and certain other sources in the Pekin area. The Illinois EPA has submitted these new standards to USEPA for its review and formal approval as part of Illinois' SIP.

The coal boilers at Powerton are subject to USEPA's Mercury and Air Toxic Standards, 40 CFR 63 Subpart UUUUU. These rules address the emissions of HAPs from the boilers.

It must also be understood that a Title V or CAAPP permit is an operating permit whose fundamental purpose is to facilitate compliance with established requirements for control of emissions. It is not a mechanism to assess the impacts of a source on public health and the environment and to establish new emission control requirements to address those impacts. As such, there is not a legal requirement that health impact assessments accompany the processing of CAAPP permits nor would such assessments be a legal basis to include new requirements for control of emissions in CAAPP permits. The emission control requirements in CAAPP permits must originate in applicable federal and state laws and rules that apply to a source and in construction permits for new and modified emission units at a source.

17. Comment Concerning Environmental Justice

In Peoria County, the health impacts of emissions from Powerton and other coal power plants disproportionately affect the low income, predominantly African American communities, living in the southern parts of Peoria. This air pollution is an environmental justice issue.

Response:
Based on the demographics of the population in the area around the Powerton Station, it is not located in an area that would meet the Illinois EPA's criteria to be of specific concern as related to

[179] **The Pekin area is not a nonattainment area for criteria pollutants other than SO_2. For SO_2, it is only a nonattainment area for the NAAQS for 1-hour SO_2. With the adoption and effectiveness of new SO_2 emission standards for sources the area, the Illinois EPA expects that ambient monitoring will show attainment of this NAAQS. The Illinois EPA will apply to USEPA for redesignation of the Pekin area to attainment for this NAAQS when three years of ambient monitoring data have been collected confirming attainment.**

Environmental Justice.[180, 181] However, even if Powerton were located in such an area, it would not directly change the CAAPP permit issued for Powerton since the appropriate contents of this permit are governed by relevant laws and rules. Rather, it would have affected the outreach activities that the Illinois EPA might engage in to facilitate participation in the permit proceeding by people living in the area. Since Powerton is not located in an Environmental Justice area, the standard process for public notice and comment was followed, together with a public hearing to receive oral comments.

18. Comment Concerning from the Completeness of the Revised Permit:

I am concerned that the revised CAAPP permit require Powerton to comply with all the emission-related requirements under the Clean Air Act and that all the available emission controls be operated and maintained properly.

Response:
The revised CAAPP permit for Powerton does what this comment requests. The permit appropriately address applicable emission-related requirements under the Clean Air Act. The source must operate and maintain emission units and their associated emission controls to comply with these requirements. Requirements for Periodic Monitoring are included to confirm compliance with the applicable requirements. For the coal boilers, these requirements include continuous emissions monitoring for emissions of SO_2, NOx and Mercury and opacity. Compliance with limits for emissions of particulate matter is addressed by a Compliance Assurance Monitoring Plan and perioding emissions testing pursuant to the USEPA's Mercury and Air Toxic Standards, 40 CFR 63 Subpart UUUUU.

19. Comment Concerning Continued Improvement in Environmental Quality:

It is now 2016 and there are some really strong environmental laws in place with the Clean Air Act and the Clean Water Act. I have seen an improvement in the quality of the environment in my

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[180] **USEPA describes environmental justice as:**

> **Environmental justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.**
>
> **Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.**
> **https://www.epa.gov/environmentaljustice/learn-about-environmental-justice**

[181] **While there are low-income and minority communities in the Greater Peoria Area, the population of this area cannot be characterized as low-income or minority when considered overall. The population in the area near Powerton also cannot be characterized as having significantly lower income or higher levels of minorities so as to qualify as an environmental justice area.**

community but it can always be better. I am always advocating for stronger policies, so that is why at tonight's hearing with fellow residents, because this is our home. I want to see things continue to improve and not see all this environmental progress backslide.

Response:
As this CAAPP permit facilitates compliance with established emission-related requirements by Powerton, it will generally act to reduce emissions and improve air quality in the Pekin area. However, the bulk of the improvements in air quality in this area are not the result of the CAAPP program. Some of the improvements are the result of the adoption of new emission standards, such as the Mercury and Air Toxic Standards, the Cross-State Air Pollution Rule and 35 IAC 214.603, which have acted to require certain existing sources to take actions to reduce emissions of certain pollutants. Other improvements are the result of the retirement of older emission units, sometimes with replacement with new units that emit less. In any case, air quality in the Pekin area should be expected to continue to improve.

G. COMMENT ON THE STATEMENT OF BASIS

The source submitted a comment identifying several points in the Statement of Basis that the Illinois EPA prepared to accompany the draft of the revised CAAPP permit[182]_that the source considered to be inaccurate or incomplete, as follows. _The Illinois EPA is acknowledging these points in this Responsiveness Summary.[183]

a. In Section 1.3 of the Statement of Basis, with reference to the request for a modification to the permit to address the CAM Plan, it is stated "The Permittee submitted the application to Illinois EPA on April 21, 2016." A request for a permit modification to address the conditionally approved CAM Plan was submitted to the Illinois EPA as indicated. However, a revised permit modification request was submitted to the Illinois EPA on August 23, 2016. This revision was submitted to address a change in the compliance period for the 30 percent opacity indicator from a 3-hour block average to a 3-hour rolling average. Table 7.13a in the draft permit reflects this August 2016 request.

b. In Section 4.6 of the Statement of Basis, it is stated "All excursions must be reported in the plant's semi-annual CAAPP compliance report." Draft Condition 7.1.10-2(a) requires quarterly reports in place of semi-annual reports otherwise required by Condition 8.6.1. Powerton will report any CAM Plan excursions with the required quarterly report.

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[182] Requiring a health impact assessment is something that would need to be imposed through revisions to the applicable laws and regulations. [182] Statement of Basis for the Planned Issuance of a Revised CAAPP Permit through Reopening and Significant Modification for Powerton Generating Station, dated August 25, 2016.
[183] A revised Statement of Basis will not be prepared. The points made in this comment are documented in this Responsiveness Summary and are part of the public record for the revised CAAPP permit that has been issued.

c. In Section 6.5 of the Statement of Basis, it is stated that:

> Mercury: 0.0080 lb mercury/GWh gross electrical output, using continuous monitoring equipment which includes mercury continuous emission monitoring systems and associated monitoring and data acquisition systems.

The Statement of Basis does not clearly identify that the compliance period for this emission standard for mercury is a 12-month rolling average. The averaging period is identified in 35 IAC 225.295(c) (Draft Condition 6.5.4(a)(i)).

d. In Section 6.5 of the Statement of Basis, it is stated:

> NOx: Annual emission rate and ozone season emission rate of no more than 0.11 lb/mmBtu.
> SO_2: Comply with annual average emission rate and annual mass emission limitations in the Board variance through December 31, 2017. Subsequently, comply with SO_2 emission rate limitations in 35 IAC [225.]294(b).

The Statement of Basis does not clearly identify that the subject NOx and SO_2 emission limits are fleet-wide averages, applicable to the CPS Group as defined in 35 IAC 225.292. Powerton is allowed by rule to average emissions of NOx and SO_2 with other units in the CPS Group to comply with the specified limits. Draft Conditions 6.5.4(b) and (c) appropriately identify CPS Group averaging.

e. In Section 6.6 of the Statement of Basis, it is stated:

> Acid Gases: Compliance with an SO_2 limit of 0.20 lb/mmBtu, on a quarterly basis. Pursuant to the MATS Rule, the Permittee is allowed this method since the affected EGUs are equipped with a flue gas desulfurization system and an SO2 continuous emission monitoring system (CEMS). With this option, quarterly testing for HCl emissions is not required.

Powerton does not currently comply with the MATS limits for acid gases by means of the SO_2 emission limit. Instead, it performs quarterly stack testing for hydrochloride (HCl). Flexibility to change compliance method for acid gases is appropriately identified in Draft Condition 6.6.3(a)(iii). However, Powerton currently plans to continue to perform quarterly testing for HCl unless and until the testing frequency can be reduced by demonstrating status as a low-emitting EGU status under the MATS rule.

f. In Section 6.6 of the Statement of Basis, it is stated:

> As required by the MATS Rule, the Permittee has conducted all required initial performance testing, boiler tune-ups and notifications. All emissions testing demonstrated significant margins of compliance with the applicable emissions limits. The Permittee submitted a notice of completion of initial performance tune-up for the boilers to the Illinois EPA on September 18, 2015 and an initial notification of compliance status for the MATS Rule to the Illinois EPA on October 12, 2015. These have been followed by periodic testing reports on a quarterly basis. The initial

notification of compliance status was submitted on September 17, 2015.

The initial notifications of compliance status for the initial MATS boiler tune-ups and the initial mercury emission standard compliance demonstration were submitted as stated in the Statement of Basis. However, the dates for submittal of other notifications of compliance status were: HCl - October 12, 2015, and PM - September 7, 2016. Note that Powerton received a compliance date extension by the Illinois EPA for the initial compliance date for the non-mercury metals/PM standard to April 15, 2016, so that the initial compliance demonstration for PM was due 180 days later, i.e., by October 12, 2016.

g. In Section 7.1 of the Statement of Basis, it is stated:

> For the PM standards for the MATS Rule, the source has elected to perform quarterly emissions testing to demonstrate compliance. Recent performance testing of the boilers for PM showed compliance with the applicable limit (0.03 lb/mmBtu) with a 56% margin of compliance. The MATS rule uses USEPA Test Method 5, with a probe temperature of 320 ± 25°F.

The first required PM stack testing under the MATS rule was conducted on August 2, 2016 and the associated test report was submitted on September 7, 2016. The test results showed an average PM emission rate of 0.0075 lb/mmBtu, which means that the margin of compliance shown by this test was 75 percent.

h. In the Statement of Basis, Section 7.3, with regard to coal processing equipment, it is stated, "Additionally, baghouses would be inspected annually." However, there are no baghouses for Powerton's coal processing equipment. Condition 7.3.2 of the draft permit appropriately lists the control devices that are in-service for Powerton's coal processing equipment.

ATTACHMENT 1:

CHANGES BETWEEN THE DRAFT PERMIT AND THE ISSUED PERMIT

OVERALL SOURCE CONDITIONS

Condition 5.2.2(a)(ii)
A new condition has been included in the issued permit, Condition 5.2.2(a)(ii), to directly address compliance with 35 IAC 212.301. This state rule prohibits fugitive emissions if they are visible at the property line when looking directly overhead unless the wind speed is more than 25 miles per hour. New Condition 5.2.2(a)(ii) now provides that, upon request by the Illinois EPA, the source must conduct daily observations at the property line for a week to address compliance with 35 IAC 212.301. This requirement addresses the unlikely circumstance that the emissions from the subject operation(s) would be such that compliance with 35 IAC 212.301 might be put into question. This change responded to concerns that the draft permit did not include compliance procedures to address 35 IAC 212.301.

Condition 5.2.4(c)
The date of submittal for the Fugitive PM Operating Program was revised to reflect the date for the most recent submittal. The updated Fugitive Particulate Matter Operating Program is now incorporated by reference into the issued CAAPP Permit.

Condition 5.2.9(a)(i)
The date of submittal for the Control Measures Record was revised to reflect the date for the most recent submittal. The updated Control Measures Record is now incorporated by reference into the issued CAAPP Permit.

Condition 5.2.9(a)(ii) and Condition 5.2.9(a)(iii)
Revised Condition 5.2.9(a)(ii) and new Condition 5.2.9(a)(iii) address the broader "incorporation by reference" of the Control Measures Record into the CAAPP permit. These conditions now require revisions to the CAAPP permit if the source changes provisions in the Control Measures Record for the following operations: 1) Coal unloading at the rotary car dumper; 2) Coal storage piles (active and inactive); 3) Radial boom stacker operations; and 4) Dry fly ash load-out from storage silos. These operations were identified on the basis of their potential for emissions, as they are the only operations addressed by the Control Measures Record whose emissions could, as a practical matter, exceed applicable standards. For such operations, changes to the Control Measures Record affecting the nature, application or frequency of the relevant control measures will not be automatically incorporated into the CAAPP permit but, instead, will require an appropriate revision to the permit. Due to these changes, Conditions 7.2.9(b)(iii), 7.3.9(b)(iii) and 7.4.9(b)(iii) in the issued permit do not include cross-references to Condition 5.2.9(a).

Note: In the issued permit, Draft Condition 5.2.9(a)(i) has been divided into Conditions 5.2.8(a)(i) and (ii). Draft Condition 5.2.8(ii) is Condition 5.2.8(a)(iv) in the issued permit.

Condition 5.5.1
Condition 5.5.1 in the issued permit makes clear that the payment of annual site fees to the Illinois EPA by the source is a "State Only Requirement."

Condition 5.8(a)

This condition addresses when new compliance obligations established by the issued permit take effect. Condition 7.2.8(d), which now requires visual surveys of the coal storage pile operations, is an example of such an obligation. Condition 5.8(a) provides that these new compliance obligations becomes effective 36 days after the issuance of the revised permit. This is reasonable because the source must revise its practices and procedures to address these new obligations.

Condition 5.8(b)
This condition provides more days for the source to submit its first quarterly report pursuant to the issued permit. This is reasonable because the source must assemble and report additional information that this permit now requires be provided in these reports. More time is only provided for submittal of the first quarterly report pursuant to this permit. Subsequent reports must be submitted within the timeframe in Condition 7.1.10-2(a)(iii).

CONDITIONS FOR EMISSION CONTROL PROGRAMS

Condition 6.4
Minor changes to the language in this condition were made to be consistent with the language in the CAAPP permits issued for other coal-fired utility boilers in Illinois.

Condition 6.6.4(a)(iii)
In the issued permit, the origin of authority, i.e., 40 CFR 63.10000(c)(1)(v), is included in Condition **6.6.4(a)(iii)**. This rule citation was inadvertently omitted from the draft condition.

Condition 6.6.6(d)
In the issued permit, this condition now reflects the exact language in 40 CFR 63 Subpart UUUUU, the MATS rule, for the required recordkeeping for the combustion of non-hazardous secondary materials or fuels with non-waste determinations. This change responds to comments concerning the provision of the current permit that provides the source with operational flexibility for the coal boilers to burn certain alternative solid fuels with coal. The enhanced condition, with language from the MATS rule, provides more clarity and specificity regarding the types of alternative fuels that may be used pursuant to the operational flexibility provided by Condition 7.1.11-2(a).

COAL FIRED BOILERS

Conditions 7.1.5(a)
In this condition, the phrase "coal or other solid fuel" has been replaced with "coal (solid fuel)." In this condition, which addresses the possible applicability of different state emission standards to the coal boilers if solid fuel were not their principle fuel, coal is appropriately identified as being a type of solid fuel. This is because the relevant state standards that address emissions from boilers that burn coal do not actually refer to boilers that burn coal. These standards actually refer and apply to boilers that burn "solid fuel." These changes respond to comments that the changes to this condition that would have been made by the draft permit would allow the boilers to burn solid fuels other than coal. The new wording in the condition in the issued permit is more consistent with the language of relevant state emission standards. It also better expresses that coal is being addressed in this condition as a type of solid fuel.

Condition 7.1.5(i)

As a result of comments regarding use of alternative fuels in the coal boilers, this non-applicability statement was revised to clarify that, at the time this revised permit was issued, the coal-boilers were not subject to 40 CFR 60 Subpart CCCC. This is because these boilers do not serve to combust solid waste, as defined by 40 CFR Part 241, for the purpose of reducing the volume of waste by removing combustible matter.

Condition 7.1.5(k)

This non-applicability statement was added in the issued permit. It recognizes that the NOx emissions of the coal boilers are not subject to 35 IAC Part 217 Subpart M, Electrical Generating Units. This is because, as provided by 35 IAC 217.342(c), these boilers are subject to the combined pollutant standard in 35 IAC Part 225. The need for this non-applicability statement was identified during work on a revised CAAPP permit for another coal power plant in Illinois.

Condition 7.1.6(a)(i)

This condition has been revised so that the permit does not suggest that the source must operate a boiler simply for the purpose of conducting a combustion evaluation on the boiler. This condition now explicitly provides that if a boiler does not operate in a semi-annual period, the source is not required in that period to conduct a combustion evaluation on the boiler.

Condition 7.1.6(a)(iii)

This condition related to the timing of combustion evaluations was revised to reasonably assure that the source can conduct these evaluations when boilers would otherwise be operating. New Condition 7.1.6(a)(iii)(B) now provides that if a boiler operates on less than 40 days in a semi-annual period (less than 25 percent of the days), a combustion evaluation may be conducted within the next 30 days that the boiler is operated after such semi-annual period. This change responds to a comment from Midwest Generation that expressed concern that the provisions in the draft permit for the timing of these evaluations would not appropriately address semi-annual periods in which a boiler was not being operated for much of the time.

Condition 7.1.7-1(a)(v)

Changes were made to this condition was to refine the requirements for the emission testing that would apply if an alternative fuel is used in the boilers. This condition now provides that if <u>any</u> alternative fuel is used in the boilers and the source is demonstrating compliance with a MATS emission standard for a pollutant by periodic emission testing and not by monitoring, emissions testing must be conducted for the boilers to address compliance with that MATS standard when using alternative fuel and coal, as well as when using only coal. In addition, if <u>any</u> alternative fuel is used, emission testing must be conducted to address compliance with the state emission standard for carbon monoxide, 35 IAC 216.121. The changes ensure that if alternative fuel(s) are used in the boilers, the source must have emission testing conducted as needed to demonstrate compliance with applicable emission standards. The changes to this condition respond to comments concerning the operational flexibility provided by the permit for use of alternative fuels with coal.

Conditions 7.1.9(h)(ii)(D)(I)

As the cause(s) of a malfunction/breakdown would not have been addressed by the related recordkeeping required by Draft Condition 7.1.9(h), in the issued permit, this condition was revised, as it is appropriate that the cause for a malfunction/breakdown be addressed in both the records and specified in the reports. The change responds to a comment identifying the need for reporting the cause of a malfunction/breakdown in Condition 7.1.10-3(a)(ii).

Condition 7.1.10-2(a)(i)(D)
This new condition requires that the required quarterly reports for the boilers, must now include monthly information for the usage of coal and any alternative fuels. This change responds to comments concerning the operational flexibility provided by the permit for use of alternative fuels.

Condition 7.1.10-2(g)
In response to a comment from Midwest Generation, this condition now only requires certain emission data submitted to the USEPA in electronic format on a quarterly basis to also be submitted to the Illinois EPA upon specific request by the Illinois EPA. This change was reasonable given that the USEPA's Clean Air Markets Division makes the relevant emission data is available on-line. Accordingly, the data in these reports is reasonably available to the Illinois EPA, as well as to other interested parties.

Condition 7.1.11-1(c)
This condition was revised because provisions related to the use of alternative fuels have been moved to Condition 7.1.11-2(a). This condition now only addresses use of used oil generated at the source in the boilers and not "alternative fuels." This change was an outgrowth of changes made to respond to comments concerning the operational flexibility provided by the permit for use of alternative fuels with coal. In particular, Condition 7.1.11-1 now addresses only the categories of operational flexibility that do not require prior notification to the Illinois EPA by the source in accordance with Condition 8.4.2(e). In the issued permit, Draft Condition 7.1.11-1(c)(ii) was moved to Condition 7.1.11-2(a) and Draft Condition 7.1.11-1(c)(i) was moved to Condition 7.1.11-1(c).

Condition 7.1.11-2(a)
In the issued permit, requirements that apply for use of alternative fuels in the boilers are now in Condition 7.1.11-2(a). Notification in accordance with Condition 8.4.2(e) is now required for use of alternative fuel in the boilers. The issued permit also includes additional requirements related to the materials that may be used as alternative fuels. The changes address the obligation on the source to demonstrate that 40 CFR 60 Subpart CCCC, the CISWI NSPS, continues to not be applicable if alternative fuel(s) are used in the boilers. The changes also address the obligation on the source to conduct performance testing as needed to show that the boilers continue to comply with applicable emission standards when alternative fuel is used. The refinements to the requirements in this condition that apply to any use of alternative fuel in the boilers respond to comments concerning the operational flexibility provided by the permit for use of alternative fuels.

Condition 7.1.11-2(b)
In the issued permit, the additional substantive requirements that apply for use of refined coal in the boilers have not changed. However, these requirements have been moved from Draft Condition 7.1.11-2 to Condition 7.1.11-2(b).

COAL HANDLING AND PROCESSING EQUIPMENT

Sections 7.2 and 7.3
In the issued permit, changes were made in Sections 7.2 and 7.3 to accurately reflect the provisions of Construction Permit 06120004. This construction permit addresses the installation of wet dust extractors on certain coal handling operations and processes to improve operational safety, replacing the baghouses that formerly controlled these units. A revision of this construction

permit was issued on June 20, 2017 to resolve the appeal by Midwest Generation of the construction permit initially issued by the Illinois EPA.

As a general matter, these sections in the issued CAAPP permit now identify the coal handling operations and processes that are subject to the NSPS, 40 CFR 60 Subpart Y, as addressed in the revised construction permit. The specific changes to conditions in the issued CAAPP permit that resulted from the revision of this construction permit are:

Condition 7.2.2 – In this condition, "Surge Bins" are now also identified as affected coal handling operations, along with "coal storage silos."

Condition 7.2.3(a)(ii)(B) – This new condition makes clear that the NSPS, 40 CFR 60 Subpart Y, includes requirements for coal transfer systems.

Condition 7.2.4(d) – This condition was revised to delineate the coal handling operations at the source that are subject to a 20 percent limitation on opacity per the NSPS.

Condition 7.2.8(b) – A reference to Condition 7.2.4(d) was added to make clear that the inspections required by Condition 7.2.8(a) will now also serve to address compliance with the 20 percent opacity limitation per 40 CFR 60 Subpart Y.

Condition 7.3.3(a)(ii) – This new condition addresses the applicability of 40 CFR 60 Subpart Y to the affected processes.

Condition 7.3.4(e) – This new condition applies the applicable opacity limitation of the NSPS, i.e., 20 percent, to the affected processes.

Condition 7.3.6(a)(iii) – This new condition applies the requirement of the NSPS, 40 CFR 60.11(d), for implementation of "good air pollution control practice" to the affected processes.

Condition 7.3.8(b) - A reference to Condition 7.3.4(e) was added to make clear that the inspections required by Condition 7.3.8(a) will now also serve to address compliance with the 20 percent opacity limitation per 40 CFR 60 Subpart Y

Condition 7.2.8(d)

Additional Periodic Monitoring is required for the coal storage pile operations by this new condition, i.e., periodic "visual surveys" of these operations by the source. These surveys must include an observation of the coal pile operations for visible emissions in accordance with Method 22 for at least 10 minutes and/or Method 9 for at least 6 minutes. These surveys must be conducted twice per month during warmer weather, May through November of each year, to address the potential for higher emissions. This is because water evaporates more quickly during warmer weather and the exposed coal at the surface of a pile has increased potential for emissions. Monthly surveys are required for the rest of the year. This new requirement responded to concerns that the Periodic Monitoring to address 35 IAC 212.123(a) required by the draft permit would not have been adequate.

AUXILIARY BOILER

Condition 7.6.9(a)

Condition 7.6.9(a) of the draft permit is not included in the issued permit. This condition addressed recordkeeping related to Condition 7.6.6(a)(i). However, in this proceeding, Condition 7.6.6(a)(i) was proposed be removed from the permit, as reflected in the draft of the revised permit. Since Condition 7.6.6(a)(i) has now been removed and is not in the revised permit that has been issued, Condition 7.6.9(a) also has not been included in the issued permit.

NATURAL GAS-FIRED AUXILIARY BOILER 2

Section 7.8

Changes were made in Section 7.8 of the issued permit so that it reflects the provisions of Construction Permit 14090020 as revised on May 10, 2017. In the draft permit, Section 7.8 of the permit addressed an auxiliary natural gas boiler that would be a "temporary boiler" and would be in place only in periods when the existing auxiliary boiler would not be not available due to outages or would be insufficient due to extreme cold weather. As revised, Construction Permit 14090020 no longer requires that this boiler qualify as a temporary boiler. This auxiliary boiler would now be subject to applicable requirements in 40 CFR 60 Subpart Dc and 40 CFR 63 Subpart DDDDD, which formerly did not apply as this boiler as a temporary boiler. Accordingly, the issued CAAPP permit now includes applicable requirements from certain rules that are now applicable to this boiler, including requirements for tune-ups, recordkeeping, notification and reporting, as reflected in the revised construction permit.

In particular, the following conditions have been added in the issued CAAPP permit to address the additional requirements that now apply for this boiler: Conditions 7.8.4(c) through (e), 7.8.5(b) through (d), 7.8.6(b), 7.8.9(f) and (g), 7.8.10(c) and (d), and 7.8.11(e). The following draft conditions have not been included in the issued permit: Draft Conditions 7.8.6(a), 7.8.7, 7.8.8(g) and 7.8.9(a).

Draft Condition 7.8.9(d)

Draft Condition 7.8.9(d) was not carried over to the issued permit. This condition would have required recordkeeping for a supposed work practice requirement in Draft Condition 7.8.6(a)(i). However, that work practice requirement was not actually present in the draft permit and is not being included in the issued permit.

GENERAL PERMIT CONDITIONS

Condition 8.6.3(f)

A change has been made in Condition 8.6.3(f), which addresses certain data that must be included in reports submitted to the Illinois EPA for required emission testing. In the issued permit, this condition has been reworded to make clear that both raw data and sample calculations must be provided for the various tests and analyses that are entailed in the testing of the emissions of emission units. With the new wording, this condition cannot be read to suggest that reports for emission testing must include either raw data or sample calculations, but not necessarily both. This change was made in response to a comment that observed that such a reading was possible for the condition as worded in the draft permit.